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ABSTRACT

This paper explores the question: what courses and activities contribute to the music major's musical growth (musicianship), and which do not? Musical independence (MI) is the key indicator of student outcome in music. The study makes a subtle difference between MI and musical achievement, the mastery of any academic skill related to music, whereas MI is directly related to the actual production and performance of music. The Instrumental College Survey-2 (ICS-2), Colwell's Music Achievement Test 3 (MAT3), and Colwell's Music Achievement Text 4 (MAT4) were administered to 354 instrumentalists participating in Ball State University, Florida State University, and Wichita State University bands, with 78 non-music majors eliminated from the total participant population. The instrument examined the general areas of student outcome and general demographic data, including college course work, grades, performance activity skills, and artistic fundamental skills. (Contains 28 references.) (EH)

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COURSE WORK, INSTRUMENTAL SPECIALTY SKILLS, AND MUSICAL PHILOSOPHY: ACTIVITIES AND EXPERIENCES THAT IMPACT COLLEGE STUDENTS' MUSICAL INDEPENDENCE

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COURSE WORK, INSTRUMENTAL SPECIALTY SKILLS, AND MUSICAL PHILOSOPHY: ACTIVITIES AND EXPERIENCES THAT IMPACT COLLEGE STUDENTS' MUSICAL INDEPENDENCE

I. INTRODUCTION

Instrumental music education majors are exposed to a variety of musical experiences and activities in college. These students attend and pass a prescribed number of music education, academic, and elective classes. They become proficient on one musical instrument, take private lessons, and participate in a variety of instrumental ensembles. Music majors study assigned materials and practice their primary instruments to develop a high level of musicianship. What courses and activities contribute to the music major's musical growth (musicianship), and which do not?

Musical independence (MI) is the key indicator of student outcome in music (see references). For example, in the area of instrumental performance, a beginner requires constant instruction, a college student requires some but not constant instruction, and a professional performer requires little instruction: the beginner is musically dependent on the teacher, the college student is moderately musically independent, and the professional is musically independent.

The authors make a subtle difference between musical independence (MI) and musical achievement. Musical achievement represents the mastery of any academic skill related to music, but MI is directly related to the actual production and performance of music. The link between knowledge acquisition and the application and use of that knowledge in performance is the key: music knowledge may exist without MI, but MI may not exist without music knowledge.

The authors have divided postsecondary musical experiences and activities into three primary areas: (1) college course work, (2) performance activities, and (3) artistic fundamental skills. The three areas are examined from two perspectives: Student behavior and student perceptions.

A. College Course Work (CCW). When examining post-secondary MI development, some music educators suggest that quantifiable indicators (grades or number of courses in an activity) reflect the level of MI development. Other music educators suggest that the student's opinions (perceptions) are important in analyzing student outcome. Does quantifiable CCW (numbers of courses and/or grades) and perception indicators measure different interactions, or do they overlap?

B. Performance Activities (PA). College accreditation requirements expect instrumental music majors to master and become proficient on at least one band instrument. What are the experiences, activities, and respective instrumental skills needed to become proficient on an instrument? Music majors develop instrumental skills through private lessons, solo and ensemble rehearsals and performance, and individual practice. Common activities such as scales, thirds, arpeggios, etudes, solos, sight-reading, and possibly improvisation are practiced and refined. Are these activities common to individual practice, private lessons, and band rehearsals ? Are they equally important in each activity? Could certain performance activities actually hinder a student's musical development? Music educators have developed and included these performance activities into the curriculum through custom, tradition, and personal experience. But how valuable are these activities in developing instrumental musicianship?

Music majors' perceptions of different performance activities might play a large role in the student's MI. Some music educators suggest that student perceptions are important in analyzing student outcome—perceptions of the different performance activities generally reflect the instrumentalist's music philosophy. Do quantifiable **PAs** (percentage of time emphasizing each PA) and perception indicators measure different interactions, or do they overlap?

1. **Musical Independence (MI) Hierarchy.** The five MI skill levels, progressing from the lowest to highest, are thinking (to know), listening (to sense), performing (to make), conducting (to direct), and composing

(to originate). The hierarchy implies that to play an instrument, the instrumentalist must master knowledge skills (Level 1), listening skills (Level 2), and performance skills (Level 3). To compose music (Level 5), the musician must master thinking, listening, performing, conducting, and composition skills (Figure 1).

2. **Role of private teacher and band director.** Knowing the important and unimportant performance activities and how they impact MI are essential to MI development--without knowledge there is no discrimination. Student outcome is a reflection of a clearly defined educational and pedagogical philosophy which focuses on essential performance activities. To communicate clearly with the student, the private teacher, band director, and advanced music major should share the same basic musical philosophy. Should the goal of music education majors be that stated by the late William D. Revelli (1975): "*. . . to become the best possible musician you can be on your instrument. That is the first step to becoming a great teacher and band director*"? Further, does one have to be able to make great music (musicianship) to teach great music? In today's music education, do private teachers, band directors, and music majors reflect the same or a different musical agenda in the development of musicianship?

The music major's private instrumental teacher is the cornerstone of that student's MI development. Private teachers are responsible for whether or not the students master their instrument. During the lesson, the teacher first observes and diagnoses the student's strengths and weaknesses, then prescribes specific instrumental "performance" activities to remediate a specific instrumental deficiency. For every deficiency, there is a remedy. If the student cannot play a technical passage musically, the private teacher might assign scales, thirds, and arpeggios. If the student has a problem with phrasing (technique, dynamics, form, theory), intonation or articulation, the teacher will assign a specific etude or solo. If students have a problem playing by themselves, the teacher may assign a solo performance or recommend participation in a small ensemble. Or if the student has trouble sight-reading (public school music education and college band directors), the teacher might emphasize sight-reading. Teachers are then expected to evaluate the student's performance and assign a grade. The assigned grade should reflect the degree to which the students have mastered performance on their instruments during the lessons.

The band director is responsible for determining and producing the instrumental musical output for the band as a whole and not the specific development of any one individual. The ensemble's performance becomes the end result, whereas the student's instrumental efforts and accomplishments are the means to accomplish this end result--performing a band piece with a high level of musical finesse and artistry. If the clarinets are having a problem with a particular passage in "E major", the director might suggest that the students practice their scales, thirds, or arpeggios, focusing on E major; if the brass are having difficulty with double-tonguing, the director might suggest etudes which address advanced articulation. Too often though, when students are playing a particular band piece poorly, directors tell the students to practice their band music. By this comment, are they intimating that it is more important to win the "battle" by mastering the performance of one particular band piece at the expense of winning the "war" by mastering a variety of performance activities? Does the mastery of the band music develop specialized MI skills that are not learned and mastered in any other musical experience?

Individual practicing is the primary method for developing student MI. Private teachers, music faculty, and band directors should emphasize this obvious, yet essential activity in developing instrumental musicians. While the teacher or band director guides the student, the student must develop by themselves, in much the same way that an infant learns to walk. During practicing, the student applies the MI skills taught by the private teacher or band director. When students practice correctly, they should progress and grow; but practicing the wrong things might stall or even harm students' instrumental growth.

3. **Postsecondary Performance Activities--An overview.** During the present study, students were asked to specify to what extent (percent emphasized) they practiced scales, thirds/arpeggios, etudes, solos, band music, improvisation, or "other." Students defined "other" as cleaning their instrument (woodwind and brass), seating and adjusting pads (woodwinds), adjusting drum heads (percussion), and fixing and making reeds (woodwinds) (Bobbett--Ball State Study).

Students participate in various musical training activities while developing instrumental musical skills. Practicing an instrument is a time-consuming activity. Time-on-task and emphasizing the right

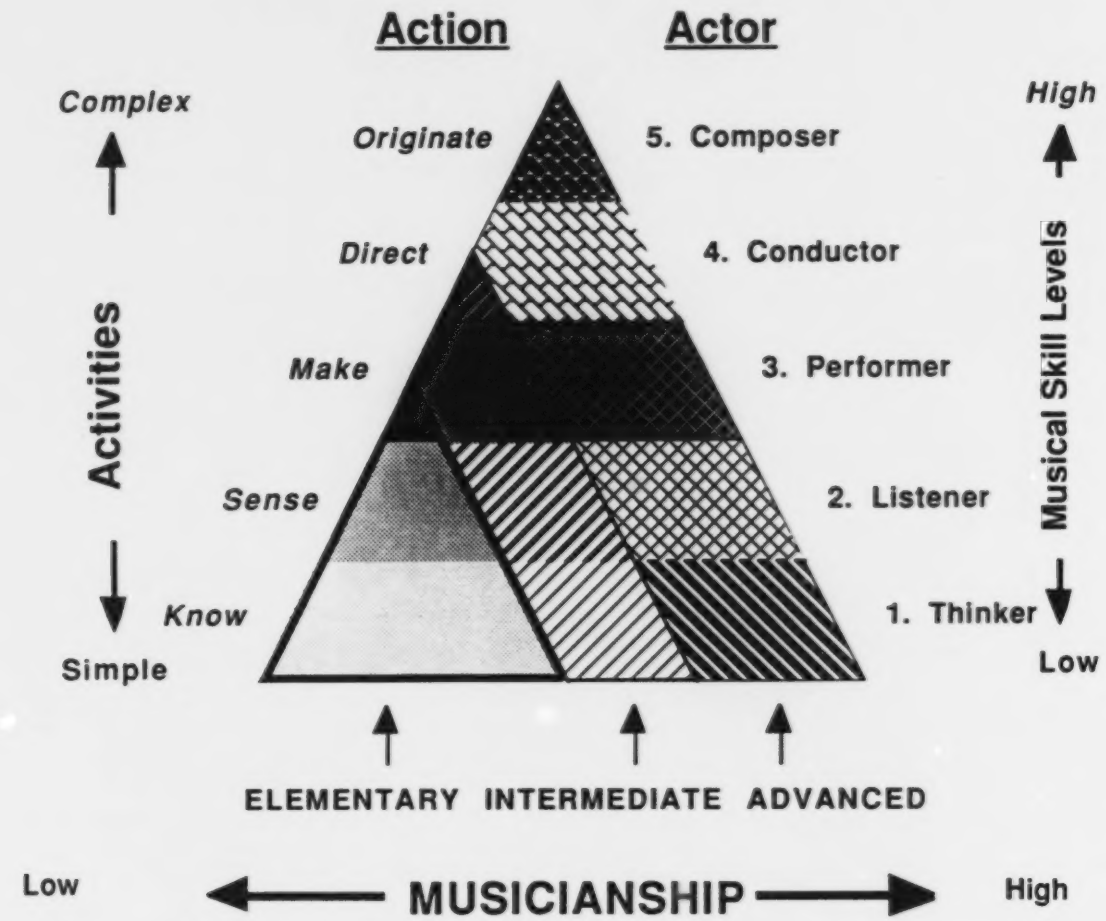

Figure 1. Hierarchy of Musical Independence (MI) characteristics, Bobbett, 1987.

things are primary distinctions between excellent and weak instrumentalists. Excellent instrumentalists practice many hours every day and emphasize specific training activities; weak instrumentalists practice less per day and do not emphasize the key training activities and related performance activities. What training activities and related performance activities do excellent instrumentalists emphasize during their practicing? Are some performance activities more valuable to student MI development than others?

This study examined eight performance activities that students could emphasize during their practicing. The practice activities include: (1) scales, (2) third/arpeggios, (3) etudes, (4) band music, (5) sight-reading, (6) solos, (7) improvisation, and (8) other.

Garofalo (1992) identifies intervals, scales, chords, rhythm, dynamics, form and style as areas which should be included in the instrumental music curriculum (p. 116). He states that to play, sing, and identify by ear and eye intervals, chords, scales and rhythms derived from the score "as one of his five basic learning goals" (p. 1). Middleton, Haines, and Garner (1966) emphasized the importance of performance activities: "Technical drill geared toward increasing fluency, flexibility, control, and articulation skills should be a regular part of the rehearsal routine. Scales and arpeggios, in all keys, should receive major emphasis" (p. 94). Prentice (1987) wrote: "Scales are good for everyone. Practice slow and fast, major, minor, and chromatic; tongued and slurred; with arpeggios; in as many octaves as possible"(p. 108).

When performing scales, students master one fundamental of musical performance—the intervals of a major and minor second. Gilbert (1987) wrote: "Almost all music is built on the simple basic elements of music: scales, thirds, and arpeggios. If you had learned to play these before you started working on the piece then there would be only limited portions of it you would have to practice" (p. 58) (emphasis added). In all tonal western music, scales, or portions of scales, are present. Mastery of scales, therefore, reflects not only the mastery of the musical instrument, but also mastery of one basic melodic construct of western music. Students rehearse and are evaluated on the performance of scales in private lessons, auditions, and ensemble rehearsals. During the performance of a scale, students listen, learn, and perform the intervalic relationships between different notes. In an ensemble environment, scales help students develop intonation skills (listening and knowing) along with other ensemble skills such as the ability to play together.

While scales represent the mastery of seconds, the performance of thirds represents the mastery of intervals of a major and minor third. Thirds are slightly more difficult to master than seconds because they move around in skips rather than step-wise. Arpeggios include the technical mastery of both major and minor thirds along with the mastery of fourths. Added technical skill is required in mastering arpeggios. All tonal western music is based on tertial harmony and the dominant to tonic root movement of the fourth. Thirds and arpeggios are usually taught by the private teacher and sometimes incorporated as part of the warm-up portion of an instrumental rehearsal.

Etudes are pieces written to teach one or more instrumental skills such as technique, air support, embouchure control, the mastery of large or small intervals, dynamics, tonal color, phrasing, and articulation. The primary purpose is mastery of one or more different performance skills.

Performing an instrumental solo represents the application of skills into an artistic experience for both the listener and the instrumentalist. The musical skills necessary to perform a solo cover the full gamut of musical skills. Where etudes are a mechanism to teach MI skills, a solo represents the application of these skills. Solos, usually taught by the private teacher during private lessons, are sometimes a portion of an ensemble piece. Solos are often included as a segment of the all-state or college band audition. While performing solos, instrumentalists demonstrate the accumulation of all their performance skills, including scales, thirds, arpeggios, phrasing, articulation, intonation, dynamics, plus a variety of other ensemble skills related to MI.

Sight-reading has been used from Bach to the present as a method of evaluating a performer's level of MI. Because of the tremendous impact the Watkins-Farnum Performance Scale (Watkins and Farnum, 1962) had on music education in America beginning in the 1960s, sight-reading is a common method of evaluating a student's performance skills. In many states, sight-reading is used as a portion of the all-state audition process or as a portion of the Concert Festival. At the secondary and postsecondary level, it is often used as a method of evaluating student instrumental growth. Sight-

reading's popularity among music educators may be because it provides an easy way to quantitatively evaluate a student's performance. For example, if student "A" misses three notes and student "B" misses five notes, then student "A" must be the best instrumentalist. Yet, music is a complex activity to evaluate. The weakness of using sight-reading as a primary indicator of MI is that counting the number of correct or wrong notes at a first reading does not always accurately indicate the student's level of instrumental excellence.

Since all of the study's participants were members of their college band, the participants had to master their band music to maintain their music scholarship or their chair placement. The mastery of band music can be a portion of the activity used to develop MI just as instrumentalists at the music conservatory level learn and master different orchestral excerpts as part of their musical training.

Because of the popularity of contemporary music, including jazz, many private teachers or ensemble directors encourage student improvisation. There are many storied accounts of J.S. Bach using improvisation as a means of demonstrating his musical abilities. Today, improvisation is an essential component of much contemporary music. Instrumentalists need improvisation skills to play jazz, rock, country, soul, new-age, or dixie-land music. Improvisation is a unique training activity. Where the other activities might be categorized as skills represented in the third level of the MI hierarchy, improvisation implies mastery of the top level of MI. To improvise, the instrumentalist is essentially composing music. Also, the improvisers are constantly balancing their performance with the rhythmic, harmonic, melodic, and textural/tonal constraints of the ensemble.

C. **Artistic Fundamental Skills (AFS).** A musician's artistry and musicianship are the sum of musical fundamentals, skills, concepts, and knowledge. What are the essential performance **AFS** associated with artistry and musicianship? Do each of these **AFS** play an equal role in developing artistry, or are some more important than others? Are some **AFS** more basic to musicianship and artistry than others? If the answer is yes, then perhaps there is an overall hierarchy associated with the development of musicianship. Do quantifiable AFS and perception indicators measure similar interactions, or do they overlap each other when examining skills associated with MI?

While music educators have identified important concepts and skills that are generally associated with musicianship and artistry, a universal taxonomy of definitions and concepts has not been adopted. With the current national movements toward educational assessment and accountability, music education would be well served by the development of a hierarchical set of descriptors and criteria. Other disciplines, such as science and mathematics, have adopted definitions and hierarchies that are quantifiable, and thus more easily understood by those outside the discipline.

Assessment is not new to music education. Competent musicians and music educators continually assess the understanding and application of musical fundamentals, skills, concepts, and knowledge on a second-to-second basis. This moment-to-moment assessment is the very basis of every lesson, every rehearsal, and every practice session. Hovey (1976, p. 82) tacitly recognized the importance of identifying performance fundamentals and how they relate to the development of musicianship:

> . . . Those whose achievements have been most noteworthy have worked hard and have been slow to admit that any obstacle is insurmountable. There have been numerous cycles of changing philosophy and methodology, but there has always been a return to the most basic of all precepts—to teach fundamentals as the most positive means to ultimate goals.
>
> And if you frequently call attention to proper relationships of the various parts of compositional structure, band members will become increasingly adept at evaluating their own instrumental parts as they fit together with other parts.
>
> For many reasons, foremost among which is the public appearance schedule, strict adherence to a week-by-week course of study in instrumental music is practically impossible. But it is advisable to set up some long-range plan which will contribute to continuing progress. The plan could include such items as common terms, rhythmic

figures, key signatures and meter signatures, all essential to students' musical growth. (emphasis added)

What are the fundamental skills associated with artistry? In the discussion below Hovey (1976), although identifying important performance fundamentals, does not clearly define or prioritize them.

> . . . But in all situations the rehearsal objective is the same: to improve the existing level of musical knowledge and performing skills of the organization. This objective can be subdivided into what might be called the fundamentals of effective ensemble performance, namely: intonation, tone quality, rhythm, articulation, tempo, phrasing, dynamics and balance.
>
> The ideal rehearsal will concentrate heavily on ensemble rather than individual problems. It will probably be found that some section work is essential at times, but fitting prepared parts together correctly is the primary function of the rehearsal. This indicates that some individual preparation (*i.e., individual practicing*) should be expected and required .
>
> When a conductor corrects a wrong note he is solving a short-range problem. When he works to improve intonation he is attacking a long-range problem (i.e., implies the importance of musical independence) (emphasis added).

In the above citation, Hovey implies the direct linkage between the term "ensemble" with the term "performance". The Harvard Dictionary of Music (Apel, 1969, p. 294) defines the term "Ensemble": "Ensemble refers to the balance and unification attained in performance." The term Ensemble, when connected to the actual performance, should be one of the cornerstones of a musical performance and therefore directly linked to the student's MI. Hovey further recognizes that the final objective of music instruction is independence from supervision; he speaks of "individual preparation." Reynolds (1993) also endorses the importance of musical independence:

> "Build Player Independence:" Our purpose here is to make ourselves dispensable as teachers. We should be beginning the process of helping students to become independent musicians at the elementary level and then carry it right on through. We know that in the really wonderful groups in this world, much of the work is done by players listening to each other. However, in most bands, the players feel a need to play to the conductor, who controls every aspect, often with an "iron hand." We conductors are certainly essential—guiding the rehearsals and directing the interpretation--but the ultimate precision, pitch and so many of these kinds of things are really achieved by players (*i.e., the notion of independence*) (emphasis added).

In the real world of instrumental performance, instrumental students or ensembles are evaluated or judged by musical experts. The North Dakota High School Activities Association (1993) uses an adjudication sheet that identifies 10 general areas of performance fundamentals including: (1) quality of selection, (2) dynamics, (3) blend, balance, (4) intonation, (5) tone quality, (6) rhythm, (7) tempo, (8) style, interpretation, (9) articulation, technique, and (10) musical effect (i.e., a phrase implying general artistry). The judges rate each of the 10 performance fundamentals and then rate the band performance as: STAR (superior performance), HONORABLE MENTION (commendable performance), and SATISFACTORY. All 10 performance fundamentals are weighed equally with no attempt to prioritize the criteria.

In Tennessee, the Smoky Mountain Music Festival (1987) "Concert Band Adjudication" identifies similar performance fundamentals, but goes a step farther by assigning different weights to the criteria: (1) Tone (20 points), (2) Intonation (20 points), (3) Balance (20 points), (4) Technique (15 points), (5) Interpretation (15 points), and (6) Choice of Music (10 points). Both adjudication sheets are similar, for they require judges to evaluate instrumental students on recognizable and identifiable performance fundamentals.

The musical term "Form" acts as the rubric by which most AFS are discussed and eventually taught

at postsecondary schools. Able (1969, p. 327) writes: "Form in music includes practically all the theoretical and compositional principles of music." "Form" describes more than the musical organization of the composition. In a broader sense, "Form" references the dynamic, rhythmic, historical, and the theory aspects of a musical composition. Form impacts the musicians' many artistic performance considerations, for it relates to tone, technique, phrasing, or ensemble considerations during the exposition of a musical work, and then altered or modified slightly during the work's recapitulation.

Bollinger (1979, p. 94) states: "Most of the principles of good musicianship are developed and refined over a period of years through lesson materials presented in . . . individual lessons. Student intonation, however, must be learned in a group situation. Tone, intonation, technique, and rhythm can be taught in a full band, even though less effectively than through small group training" (emphasis added). Middleton (1986, p. 46) identifies many of the same AFS: "Tone, intonation, precision, blend and balance, dynamics, style, and musicianship are recognized as areas to be addressed when planning both short and long-range goals" (emphasis added). Again, Middleton never suggested that the items should be prioritized.

II. BACKGROUND

In the authors' secondary MI research (i.e., 9th or 10th grade through 12th grade), the findings indicated identifiable and measurable differences between average (randomly selected) and outstanding (nominated) instrumental music programs (Bobbett, 1987a and b). Other research examined students and band directors participating in "good" Appalachian high school instrumental programs. The student portion of the project noted a positive relationship between high school music activities such as marching contests, concert festival, solo-ensemble, solos, other ensembles, etc., and the student's MI (Bobbett, 1991a). The band director segment examined the grading procedures that influence a student's musicianship and the relationships that exist between demographic data and band directors' and students' MI (Bobbett, and Bobbett, 1990b).

Student's MI and high school activities that impacted MI were studied from the post-secondary perspective as well. When the students participating in the University of Tennessee band were evaluated (Bobbett, et al., 1989, 1990a), the findings indicated that participation in all-state band, solo-ensemble, concert festival, private lessons, and church/community choir had a positive impact on the student's MI. Researchers expanded the early post-secondary research and examined the students participating in the three instrumental ensembles at Ball State University (Bobbett, et al., 1991b, 1992). The findings suggested positive links between high school activities such as all-state band, concert festival, solo-ensemble, private lessons, and student/program MI.

During the last three years (1992-1995), the authors examined 275 instrumental music majors participating in the Ball State University, Florida State University, and Wichita State University. This research examined the relationship between Colwell's MAT3 and MAT4 with five specific areas including: (I) General Demographic, (II) College Course Work, (III) High School Music Activities, (IV) College Music Activities (Performance Activities), and (V) Musicianship (Artistic Fundamental Skills). The primary findings for the five areas included:

I. **General Demographic.**
- Colwell's MAT3 and MAT4 successfully evaluated the MI of postsecondary students and programs.
- Some good students appear to be quitting music during their sophomore year.
- It is questionable to what extent non-music majors (NMM) benefit from participating in postsecondary instrumental ensembles.
- When the brass, woodwind, and percussion music majors were examined, brass students are generally the most musically independent, while percussion students are generally the least musically independent.
- Males in this study are slightly more musically independent than females.
- Good male brass music majors are the most at-risk of dropping out of music.

II. **College Course Work.**
- Some course areas (i.e., private lessons and instrumental ensembles) relate to Musical Independence.

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- Music educators should not stereotype instrumental music students (e.g., the student's grade-level, the ensemble in college in which they participate, their college academic major, the number of years students have played their instrument, how much they practice, their college grades, the number of music education courses, or the college they attend does not always reflect their level of MI).

III. **High School Music Activities.**
- Music majors attain high academic achievement (i.e., high school and college GPA).
- Increased participation in diverse high school activities does not guarantee improved outcome in one measure.
- Top and bottom MI students have different perceptions of the relative importance of high school music activities.
- Private lessons and all-state band are valuable educational activities in developing MI.
- Perceptions have a marginal value when they are used to evaluate MI or other factors that impact outcome.
- Most high school music activities do not have a positive impact on student MI.
- The insignificance of significance: the researcher's selection of a statistical treatment has a large impact on the study's conclusions.

IV. **College Music Activities (Performance Activities).**
- Individual practicing is the primary means by which instrumental music majors learn and master instrumental performance skills.
- Students should emphasize a different selection of Practice Activities (PA=scales, etudes, band music, sight-reading, etc.) during practicing than they do during private lessons.
- Perceptions are often very misleading and do not have an important relationship on the student's MI growth.
- Music fundamentals represent the foundation by which a student develops MI skills.
- The sequencing of PAs may have a large impact on the development of student MI.
- College music majors do not know how and when to use a metronome.
- The use of a particular statistical treatment has a major impact on the study's findings and conclusions.

V. **Musicianship (Artistic Fundamental Skills).**
- Phrasing and Intonation are two of the primary "artistic" cornerstones in the student's MI development.
- Tone, technique, music history, and dynamics have a marginal impact on MI.
- Theory, form, rhythm, and ensemble have a small impact on MI.
- Not every college musical activity or experience is a positive or edifying experience for music majors.
- There is a very strong link between what is taught by the private teacher and what a student practices.
- The use of a particular statistical treatment has a major impact on the study's findings and conclusions.

Realizing the possible relationships between the different items in each of the areas, in 1994, the authors examined MI from a broader perspective, by examining the things that were associated with the student's MI from high school to graduate school (areas II, III, and IV (Bobbett, et al., 1994)). The primary conclusions included:

- Number of College Courses in ear-training, theory, conducting, music education, and voice/choir are poor indicators of the student's musical skills.
- College Grades in private lessons, ear-training, theory, conducting, music history, voice/choir, and instrumental ensemble, and GPA are poor indicators of the student's musical skills.
- The selection of a statistical technique has a very large impact on the study's findings and conclusions.
- Practicing sight-reading, improvisation, and band music hinders the instrumentalist's musical growth.

- In college, the number of private lessons, practicing solos and etudes, and grades in ear-training and theory have a large, positive impact on the student's musical growth.
- Most college music courses are not designed to teach musicianship as their primary academic agenda.
- Many high school music activities may not be educationally sound.
- High School Band - Service Activities are not educationally sound.

Re-examining the "broad picture" from a second perspective, this study examined the associations among college related items (Area II, IV, and V) and the music majors' MI.

III. PURPOSE

One purpose of this study is to examine the impact college activities, experiences, instrumental skills, along with the MM's related musical philosophy have on the student's MI as measured by Colwell's Musical Achievement Test 3 (MAT3) and Musical Achievement Test 4 (MAT4). The second purpose of the study is to identify important and unimportant activities, experiences, and skills as they relate to MI. The third purpose is to compare the differences and similarities between the students' musical philosophy (as measured by their perceptions) and their actual experiences. After examining the postsecondary students' instrumental experiences, activities, and skills, and their related philosophy, the fourth purpose is to organize and group similar musical activities, experiences, skills, and perceptions.

IV. TESTS AND QUESTIONNAIRES

The Instrumental College Survey-2 (ICS-2) (see Appendix A), Colwell's Music Achievement Test 3 (MAT3), and Colwell's Music Achievement Test 4 (MAT4) were administered to 354 instrumentalists participating in Ball State University, Florida State University, and Wichita State University bands.

The instrument examined two general areas: student outcome and general demographic data.

A. Instrumental College Survey-2 (ICS-2)

The three ICS-2 areas examined in this study included (see Appendix A):

1. **College Course Work (CCW),** (see ICS-2's Section B titled College Music Activities).

a. **Number and average.** Students were asked to indicate the number of college classes and the average grade in each of the 10 course areas. This section of the survey identified and examined the following ten course areas:

1. Private Lessons (PL)
2. Ear training (ET)
3. Theory (TH)
4. Keyboard/piano (K/P)
5. Music History (MH),
6. Conducting (CO)
7. Music Education (ME)
8. Voice/Choir (VC)
9. Instrumental Ensemble (IE)
10. General Academics (GA)

b. **Perceptions.** Using a 5-point Likert-type scale, the students were asked to respond to the 10 course areas by rating each skill's importance in developing their instrumental musicianship.

2. **Performance Activity Skills (performance activities),** (see ICS-2's Section D titled College Music Activities).

a. Percentage of Time. Students indicated the percentage of time they spent during their individual practicing and during their instrumental private lessons on each of the eight **performance activities**. This section of the survey identified and examined the following eight performance activities:

1. Scales (SC)
2. Etudes (ET)
3. Thirds/Arpeggios (TA)
4. Band Music (BM)
5. Sight-reading (SR)
6. Solos (SO)
7. Improvisation (IM)
8. Other (OT)

b. **Perceptions.** Using a 5-point Likert-type scale, the students were asked to rate the importance of each **performance activity** in developing their instrumental musicianship.

3. **Artistic Fundamental Skill (AFS)** (see ICS-2's Section E titled Musicianship).

a. **Percentage of Time.** Students indicated the percentage of time they spent during their individual practicing, band rehearsal, and private lessons on each of the 10 AFS. This section of the survey identifies the following ten AFS:

1. Tone (TO)
2. Intonation (IN)
3. Phrasing (PH)
4. Ensemble (EN)
5. Technique (TE)
6. Dynamics (DY)
7. Rhythm (RH)
8. History (HI)
9. Form (FO)
10. Theory (TH)

b. **Perceptions.** Using a 5-point Likert-type scale, the students were asked to rate the importance of each **Performance Activity** in developing their instrumental musicianship.

B. Musical Independence (MI).

The researchers used Richard Colwell's (1970) Music Achievement Test 3 (MAT3) and Music Achievement Test 4 (MAT4) to evaluate the musical independence (MI) of instrumental students participating in the top, middle, and bottom bands at Ball State University, Florida State University, and Wichita State University. MAT3 was selected because the standardization information provided in the Interpretive Manual and the Administrative and Scoring Manual is adequate and the answer sheets are clear, self-explanatory, and easy to grade. Further, it best evaluates the student's musical independence (Bobbett, 1987) and has previously determined reliability estimates. Colwell's MAT4 was selected because it addresses, more directly, some of the concepts of music history and music theory generally covered in the undergraduate music curriculum. Colwell (1970) used the Kuder Richardson 21 (KR21) to evaluate the internal consistency of MAT3 and MAT4 for grades 9-12. The KR 21 ranged from .87 to .89 for MAT3 and from .84 to .89 for MAT4. The MAT 3 consists of four subtests:

1. Tonal Memory (e.g. MAT3, subtest #1 [3ST1]): (20 items) A chord is played on a piano first in block form, and then arpeggiated. The subject determines which tone of the arpeggiated version (four tones) changed. If the two chords are identical, the subject fills in the blank marked "O." Colwell defines this as "the ability to retain the quality of a chord" (p. 100).

2. Melody Recognition (3ST2): (20 items) A melody is first played on a piano and then it is placed in a three-part setting. The subject determines whether the original melody is in the high (H), middle (M), or lower (L), voice. If the subject is in doubt or fails to hear the melody, he fills in the blank marked "?" Colwell defines this as "the ability to follow a melody aurally" (p. 102).

3. Pitch Recognition (3ST3): (20 items) The subject hears the first tone of two written pitches, and afterward hears three additional pitches. The subject indicates which of the three pitches matches the second written pitch. Colwell defines this as "the ability to mentally hear the pitches seen on a page of music" (p. 104).

4. Instrument Recognition (3ST4): (15 items)

Subtest A: (10 items) After listening to a melody played on a particular instrument, the subject identifies, from the four possible choices, the correct instrument. If the four instrument choices do not match the instrument heard, the subject fills in the blank marked "O." Colwell defines this as "the ability to identify solo instruments . . . from an aural example" (p. 106-7).

Subtest B: (5 items) After listening to a melody played on a particular instrument within an orchestra setting, the subject identifies from the four possible choices, the correct instrument. If the four instrument choices do

not match the instrument heard, the subject fills in the blank marked "O." Colwell defines this as "the ability to identify . . . accompanied instruments from an aural example" (p. 106-7).

The MAT4[2] consists of "five" subtests:

1. Musical Style: (40 items)
   Subtest A: Composer (**4ST1**): (20 items) After listening to a short orchestral excerpt, the subject selects from four choices the composer whose style most closely resembles that of the musical excerpt. Colwell defines this as "the ability to categorize music as to genre and style" (p. 166).

   Subtest B: Texture (4ST2): (20 items) After listening to a short musical composition played on a piano, the subject marks the blank "M" for monophonic, "H" for homophonic, "P" for polyphonic, or "?" to indicate if s/he is in doubt. Colwell defines this as "the ability to categorize music as to genre and style" (p. 166).

2. Auditory-Visual Discrimination (4ST3): (14 items) After listening and viewing a four-measure melody, the subject fills in a blank below every measure in which the notation is rhythmically different from the melody s/he hears. If all the measures are correct, he fills in the blank marked "O". Colwell defines this as "the ability to accurately read rhythmic notation" (p. 169-170).

3. Chord Recognition (4ST4): (15 items) A block chord is played on the piano, and afterwards, three trial chords are played. The subject identifies from the three trial chords the one which sounds like the first chord. If none of the three chords are like the first chord, then she fills in the blank marked "O". If in doubt, s/he fills in the blank marked "?". Colwell defines this as "the ability to recall the sound of a chord, either by listening for its general harmonic characteristics, by recognition of the chord as an entity, or by mentally singing the pitches of the chord" (p. 170-71).

4. Cadence Recognition (4ST5): (15 items) After listening to a short musical phrase played on a piano, the subject identifies the cadence by filling in the blank "F" for full cadence, "H" for half cadence, and "D" for deceptive cadence. If the subject is in doubt, s/he fills in the blank marked question "?". Colwell defines this as "the ability to distinguish among three common kinds of cadence (full, half, deceptive)" (p. 173-174).

V. METHODOLOGY

The researchers assumed that music majors had more urgency in developing musical skills during college than did non-music majors. Perhaps realizing the strong possibility of becoming professional music educators or performers, music majors could have participated in high school music activities that were directly linked to the development of MI. Non-music majors might have participated in music activities for reasons other than MI development, such as social reasons. Realizing that the comparison between music majors and non-music majors might provide additional insights regarding the evaluation of student outcome, the authors plan to report this analysis in a future report. Non-music majors (n=78) were eliminated from the total participant population (n=354), leaving the music major (n=276) data for the rest of the study.

This is not a longitudinal study: the instrumental postsecondary students were evaluated only once during the spring of 1991. To provide a fuller portrayal of the study's inter-related issues, inferential statistics were used. By using inferential statistics, the researchers realized that several assumptions were not strictly adhered to including: (a) students were not randomly assigned to the groups, and (b) the variance for each group were not equal (i.e., homogeneity of variance assumption) (Nunnally, 1978, pp 24-34). Therefore, instead of using randomly selected samples, the researchers used the total population of participants.

The authors examined the study's items from two perspectives.

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2. For this study plus other related studies, Colwell's MAT4 subtest 4 (Chord Recognition) was re-organized into two subtests that are reported as MAT4 ST3 and MAT4 ST4.

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1. **Behavior.** A "behavior" item reflects a quantitative measurement (i.e., the student's average grade on a 4-point grading scale), the number of classes in a specific course area, or the percentage of time a student allocates for a specific activity. Because of accreditation constraints, and talking with the respective faculty at each institution, the authors concluded that the time students spend taking a private lesson and the time allocated for band rehearsals were similar among the three institutions. Since students spend varying amounts of time practicing per week, the ICS-2 items related to individual practicing were transformed by multiplying the number of hours practiced each week times the percentage of time attributed to that item. The items are identified by the suffix "/T".

2. **Perception.** A "perception" item is measured by a Likert-type, 5-point rating scale. Students' perceptions are a reflection of the music majors' musical philosophy.

The following questions guided the study:

1. What generalities can be observed when descriptive analysis is used to examine the study's 66 "behavior" items?

2. Do the ICS-2's "behavior" items *(i.e., College Course Areas-20 items, Performance Fundamental Skill=16 items, and Performance Fundamental Skill=30 items)* relate to the student's MI?

3. What generalities can be observed when descriptive analysis is used to examine the study's 28 "perceptual" items?

4. Do the ICS-2's "perceptual" items *(i.e., College Course Areas-10 items, Performance Fundamental Skill=8 items, and Performance Fundamental Skill=10 items)* relate to the student's MI?

5. What ICS-2 items group into factors?

In response to question 1, the "behavior" items were examined. Descriptive analysis was used to examine both the number of semesters and respective grades for each of the 10 course areas. Next, descriptive analysis was used to examine the percentage of time during individual practicing and during private lessons that MMs emphasized each of the 8 **performance activities**. Finally, the analysis was used to examine percentage of time during individual practicing, band rehearsal, and private lessons that MMs emphasized each of the 10 AFS. The descriptive analysis included: numbers (n) of responses, mean scores (M), standard deviation (SD), minimum (MIN), maximum (MAX), and range. The kurtosis and skewness were used to examine the normal distribution for each of the study's items.

To answer question 2, the Pearson Product Moment correlation was used to analyze the significant relationship among the student's Grand Total (GT) score (i.e., combined MAT3 score and MAT4 score) with each of the 66 "behavior" items. The second analysis for question 2 used the Exploratory Multiple Regression.

In response to question 3, the "perceptual" items are examined. Descriptive analysis was used to examine the MM's rating of each of the 10 College Course Areas; 8 Performance Activity Skills; and 10 Artistic Fundamental Skills. The descriptive analysis included: numbers (n) of responses, mean scores (M), standard deviation (SD), minimum (MIN), maximum (MAX), and range. The kurtosis and skewness were used to examine the normal distribution for each of the study's items.

To answer question 4, the Pearson Product Moment correlation was used to analyze the significant relationship among the student's Grand Total (GT) score (i.e., combined MAT3 score and MAT4 score) with each of the 28 "perceptual" items. The second analysis for question 4 used the Exploratory Multiple Regression.

To respond to question 5, the earlier Pearson Product Moment correlation analysis for both the "behavior" (66 items) and "perception" (28 items) analysis were grouped, and the 16 items with the

smallest relationship ($r \leq \pm .035$) with the MM's GT score were excluded from further data analysis. Next, the Principal Components, roots greater than one/Varimax factor analysis (FA) statistic was applied to the study's remaining 78 items.

VI. FINDINGS

A. What generalities can be observed when descriptive analysis is used to examine the study's 66 "behavior" items?

1. College Course Work (CCW).

a. Number of Courses. Music majors (MM) are required to take a variety of college courses. MMs took more classes in general academics (M=8.3), instrumental ensemble (M=6.4), and private lessons (M=4.7), and fewer classes in voice/choir (M=0.7), conducting (M=0.7), and keyboard/piano (M=2.2) (Appendix B). Participation in number of classes varied greatly for music education (0 to ~70), instrumental ensemble (0 to ~70), and general academics (0 to ~72). Of the music education classes, private lessons (0 to 32) and theory (0 to 18) had a largest range of participation, while keyboard/piano (0 to 10), music history (0 to 12), and conducting (0 to 12) had a small range of participation. The Kurtosis and Skewness for these 10 items were all positive, but indicated that all items in this area were not normally distributed.

2. Grades in College Courses. The students' mean GPA for the 10 course areas were all higher than 3.0 (Appendix B). The students earned higher grades in instrumental ensemble (M=4.0), private lessons (M=3.8), conducting (M=3.8), and keyboard/piano (M=3.6), and lower grades in ear training (M=3.2), general academics (M=3.1), and music history (M=3.0). When the minimum grades were examined, some students earned low ("D") grades in private lessons, ear training, theory, keyboard/piano, music history, and general academics (MIN=1), average ("C") grades in conducting, music education , and voice/choir (MIN=2), and high grades ("B") in instrumental ensemble (MIN=3). The Kurtosis analysis was positive for most items in this area but not for ear training, music history, and GA. When the 10 course areas were examined collectively, the typical MM had a 3.3 GPA. The skewness analysis was negative. Collectively, this analysis suggested that these items were not normally distributed.

3. Performance Activity Skills.

Practice items represent 18 of the 66 (or 24%) ICS-2's behavior items. Individual practicing data (ICS-2: Sections D (question #2) and E (question #1)) were examined, and a scatterplot was developed to compare the number of hours practiced each week and GT scores (Figure 2). Several important observations can be made. First, the simple linear regression statistic illustrated a positive, but not significant (R^=.014), association between the number of hours MMs practiced each week and their GT score, suggesting that "time-on-task" does not always equate with higher student outcome. Second, some top students practiced very little per week and had high GT scores, while many MMs practiced many hours per week and scored very low. A complete discussion comparing the number of hours the MM's practiced each week and their GT, MAT3, and MAT4 are reported in earlier papers (Bobbett, 1992 b and c).

a. **Individual Practicing (% of time).** Students practiced a large percentage of time on solos (M=33%), etudes (M=21%), and scales (M=13%), and they practiced less on improvisation (M=4%), other (M=7%), thirds/arpeggios (M=7%), sight reading (M=7%), and band music (M=8%). Some students never practiced in these areas and others practiced in these areas more than 40%. One or more students practiced the majority of time on solos (MAX=85%), other (MAX=80%), and etudes (MAX=75%). All items in this area had a positive kurtosis and skewness, which suggested that none of the items were normally distributed.

b. **Individual Practicing (transformed data).** *The raw data (percent practiced) was transformed by multiplying the percentage of time practiced on each of the eight* ***performance activities*** *times the number of hours they practiced each week.*

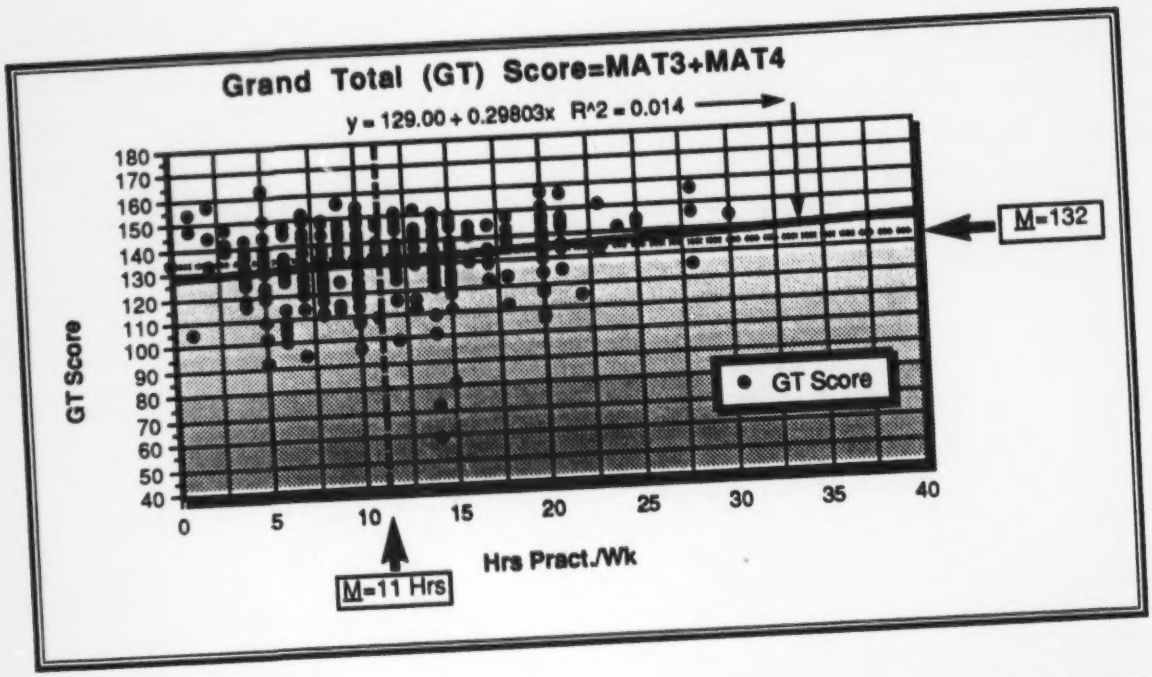

Figure 2. Scatter plot illustrating the music major's grand total (GT) score, mean score, the number of hours they practiced each week, and the mean number of practiced hours per week.

The MMs practiced two to four times more hours per week on solos (M=3.7, Rk=8), etudes (M=2.4, Rk=7th), and scales (M=1.5, Rk=6th) than they practiced on improvisation (M=.4, Rk=1st), sight reading (M=.8 Rk=2nd), thirds/arpeggios (M=.9 Rk=3rd), band music (M=.9 Rk=4th), and other (M=.8 Rk=5th). Some students never practiced any of these eight areas (MIN=0). One or more students practiced the majority of time on solos (MAX=18 hrs), other (MAX=13 hrs), etudes (MAX=12 hrs), and scales (MAX=8 hrs).

c. **Private Lessons (% of Time).** The MMs strongly emphasized solos (M=39%) and etudes (M=27%) during their instrumental private lessons; they moderately emphasized scales (M=11%), other (M=7%), sight reading (M=6%), and thirds/arpeggios (M=5%); and they de-emphasized improvisation (M=1%) and band music (M=2%) (see Appendix B). Some students never practiced any of these eight areas (MIN=0). One or more students practiced the majority of time on solos (MAX=100%), etudes (MAX=85%), other (MAX=70%), and sight reading (MAX=60%).

4. **Artistic Fundamental Skills (AFS).**

a. **Individual Practicing (%).** Music majors emphasized tone (M=19%), technique (M=18%), and rhythm (M=14%) during practicing, moderately emphasized intonation (M=12%), phrasing (M=12%), and dynamics (M=12%) , while de-emphasizing music history (M=2%), theory (M=4%), form (M=4%), and ensemble (M=5%) (see Appendix B). The skills with the highest maximum percentages were tone (MAX=90%), dynamics (MAX=85%), and rhythm (MAX=60); the smallest maximum percentages were music history (MIN=20%), phrasing (MIN=30%), ensemble (MIN=30%), form (MIN=30%), and theory (MIN=30%).

b. Individual Practicing (Transformed). *The raw data (percent practiced) was transformed by multiplying the percentage of time MMs practiced each of the ten AFS times the number of hours they practiced each week.*

During individual practicing, the MMs emphasized tone (M=2.1 hrs), technique (M=2.0 hrs), rhythm (M=1.6 hrs), and dynamics (M=1.5 hrs). MMs practiced less than one hour on music history (M=.2 hrs), form (M=.5 hrs), ensemble (M=.5 hrs), and theory (M=.7 hrs). One or more students averaged more than 32 hours practicing dynamics, 12.6 hours on tone, 10.2 hours on technique, and 5.6 hours on intonation. At the other extreme, one or more students never practiced (MIN=0 hrs) any of the 10 AFS.

c. Band Rehearsal (%). During band rehearsal, the students emphasized ensemble (M=18%), intonation (M=16%), and tone (M=13%), while de-emphasizing music history (M=2%), theory (M=2%), and form (M=3%) (see Appendix B). Note that each of the skills was de-emphasized by at least one student: the minimum percentage for each skill was zero.

d. Private Lessons (%). During private lessons, the MMs emphasized tone (M=19%), technique (M=18%), and phrasing (M=15%) and de-emphasized music history (M=3%), ensemble (M=3%), form (M=4%), and theory (M=4%). As with the other two activities, each of the AFS were de-emphasized during private lessons by at least one student: the minimum percentage for each skill was zero.

B. When the study's "behavior" 66 items are examined collectively *(i.e., College Course Areas-20 items, Performance Fundamental Skill=16 items, and Performance Fundamental Skill=30 items),* which items have an important association with the student's MI?

1. Pearson Product Moment (univariate analysis).

a. Positive Relationships. As Table 1 illustrates (see Appendix C), there are 18 important ($p \leq .05$, $r \geq .13$) positive correlations among the study's independent variables and the music major's GT score. When the **CCW** associations are examined, the number of semesters the MM took in private lessons (r=.36), music history (r=.32), instrumental ensemble (r=.20), theory (r=.19), and conducting (r=.14) relate to the MM's GT score. The number of courses in five areas—ear training, keyboard/piano, music education, voice/choir, and general academics—did not have an important relationship to musical outcome. The MMs grades in music history (r=.20) and private lessons (r=.15) are positively related with their GT score, but grades in ear training, theory, keyboard/piano, conducting, music education, voice/choir, instrumental ensemble, and general academics (i.e., eight grade areas) did not relate to the student's GT score. None of the eight **performance activities** emphasized during individual practicing had a relationship with MM's GT score. The percentage of time the MM emphasized solos (r=.27) during private lessons had a positive relationship with their GT score, while emphasizing scales , etudes, thirds/arpeggios, band music, sight reading, improvisation and other (i.e., seven of the eight **PAs**) did not have a positive association with their GT score. When the relationships among the 10 **AFS** were examined, emphasizing intonation (r=.38) during individual practicing, and intonation (r=.33), ensemble (r=.19), and phrasing (r=.16) during band rehearsal had an important association with the MM's GT score. During private lessons, the analysis found important associations with intonation (r=.41), form (r=.29), theory (r=.23), and phrasing (r=.19), but not with tone, ensemble, technique, dynamics, rhythm, and music history—six AFS.

When the "behavior" items are collectively examined, intonation is reflected in three items, and music history, theory, and phrasing and private lessons twice each. When the "Activities" are examined collectively, private lessons identified in 7 of the ICS-2's possible 18 items (Sections D and E), number of courses identified in 4 of the ICS-2's possible 10 items, grades in 3 of the possible 10 items (Section B), and band rehearsal in 3 of the ICS-2's 10 items.

The GT relationships are compared to the MAT3 and MAT4 relationships. Eleven of the 18 GT relationships are paralleled by significant relationships with both of the MATs (Table 1)—when one MAT score is positive, the other MAT score is also positive.

Table 1. Pearson Product Moment correlation used to examine the positively significant ($r \leq .13$, $p \leq .05$) relationships among postsecondary "behavior" items and music majors' GT, MAT3, and MAT4 scores.

	GT r	MAT3 r	MAT4 r	Item	Behavior	Activity
1.	.41	.44	.34	E3IN	Intonation	Private Lessons
2.	.38	.42	.31	E1IN/T	Intonation	Individual Practicing
3.	.36	.33	.34	B2PL	Private Lessons	No. Courses
4.	.33	.31	.30	E2IN	Intonation	Band Rehearsal
5.	.32	.29	.30	B2MH	Music History	No. Courses
6.	.30	.33	.23	E3FO	Form	Private Lessons
7.	.27	.18	.30	D3SO	Solo	Private Lessons
8.	.23	.21	.21	E3TH	Theory	Private Lessons
9.	.20	.26	.14	B2IE	Inst. Ensemble	No. Courses:
10.	.20	—	.24	B3MH	Music History	Grades
11.	.20	—	.25	B3CO	Conducting	Grades
12.	.19	.19	.17	B2TH	Theory	No. Courses
13.	.19	.23	.15	E2EN	Ensemble	Band Rehearsal
14.	.19	.28	—	E3PH	Phrasing	Private Lessons
15.	.16	.22	—	E2PH	Phrasing	Band Rehearsal
16.	.15	—	.18	B3PL	Private Lessons	Grades
17.	.14	—	.16	B2CO	Conducting	No. Courses
18.	.13	—	.17	B2K/P	Keyboard/Piano	No. Courses

b. Negative Relationships. The negative interactions listed below (see Table 2) are not surprising. Emphasizing improvisation ($r = -.41$), tone ($r = -.30$), band music ($r = -.28$), music history ($r = -.18$), and rhythm ($r = -.14$) during private lessons have a negative association with the student's GT score. Behaviors emphasized during band rehearsal such as music history ($r = -.32$), theory ($r = -.25$), form ($r = -.21$), and technique ($r = -.13$) have a negative relationship with the instrumentalist's GT score. During individual practicing, emphasizing tone ($r = -.33$) has a negative trend line with the student's musical outcome. Six of the nine relationships are significantly negative for both MATs and the remaining three are not.

Table 2. Pearson Product Moment correlation used to examine the negatively significant (r≤.13, p≤.05) relationships among postsecondary "behavior" items and music majors GT, MAT3, and MAT4 scores.

	GT r	MAT3 r	MAT4 r	Item	Behavior	Activity
1.	-.41	-.44	-.33	D3IM	Improvisation	Private Lessons
2.	-.33	-.37	-.27	E1TO/T	Tone	Individual Practicing
3.	-.32	-.24	-.34	E2HI	History	Band Rehearsal
4.	-.30	-.35	-.23	E3TO	Tone	Private Lessons
5.	-.28	-.19	-.30	D3BM	Band Music	Private Lessons
6.	-.25	-.23	-.23	E2TH	Theory	Band Rehearsals
6.	-.21	-.21	-.19	E2FO	Form	Band Rehearsals
7.	-.18	—	-.19	E3HI	History	Private Lessons
8.	-.14	-.14	—	E3RH	Rhythm	Private Lessons
9.	-.13	-.24	—	E2TE	Technique	Band Rehearsals

2. Exploratory Multiple Regression (multivariate analysis). The Exploratory Multiple Regression statistic was used to analyze the important relationships (p≤.05) among the study's 66 "behavior" items and the music majors' GT score. This analysis identified a positive association with the number of courses in private lessons (p≤.00), the MM's grade in ear training (p≤.00), the percentage of time solos (p≤.00) were practiced, and the percentage of time the MMs emphasized intonation (p≤.01) and phrasing (p≤.01) during band rehearsals (Appendix D). While the univariate analysis identified 18 positive associations (Table 1), the multivariate analysis identified 5 items with a importantly positive relationship with the student's GT score. Three negative associations were identified. The analysis found negative associations for percentage of time the MMs emphasized EN/T (p≤.01) during individual practicing, the percentage of time they emphasized tone (p≤.01) during private lessons, and the percentage of time they emphasized improvisation (p≤.02) during private lessons.

While the earlier univariate analysis identified nine negative associations, the multivariate analysis identified three significantly negative relationships. The analysis identified an adjusted coefficient of determination (r^2) of 32%, but did not identify the remaining 68% of the things that relate to MI represented in by the study's 66 ICS-2 items.

C. What generalities can be observed when descriptive analysis is used to examine the study's 28 "perceptual" items?

The MMs were asked to rate, using a Likert-type 5 point rating scale, each of the 28 "perception" skill's importance in developing musicianship.

1. College Course Work. When the MMs rated the 10 CCWs, private lessons (M=4.9), instrumental ensemble (M=4.5), ear training (M=4.2), and theory (M=4.2) were rated the most important in developing musicianship; conducting (M=3.9), keyboard/piano (M=3.6), music education (M=3.6), music history (M=3.5), and voice/choir (M=3.5) were moderately important; and general academics (M=2.7) was least important (Appendix E). Other than the general academics item, the other 9 items were negatively skewed, suggesting that the MMs generally perceived general academics important (rating the item on the higher end of the rating scale). The kurtosis analysis indicated that private lessons (21.6), instrumental ensemble (4.1), ear training (1.7), and theory (.7) were positively skewed, while the other six items were negatively skewed. This analysis suggested that MMs reflected specific opinions regarding note related skills, while the ratings of non-note related skills—keyboard/piano, music history, conducting, music education, voice/choir, and general academics—were perceived less definitively. Collectively, the kurtosis and skewness analysis found that most CCWs were not normally distributed.

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2. **Performance Activity.** The MMs rated solos (M=4.7), etudes (M=4.4), scales (M=4.3), and sight reading (M=4.3) the most important performance activities in developing musicianship; thirds/arpeggios (M=3.9) moderately important; and other(M=3.5), band music (M=3.3), and improvisation (M=3.0) least important (Appendix E). Generally, the kurtosis analysis found that MMs were more opinionated regarding the importance of note-related, structured skills (e.g., scales, etudes, sight reading, and solos), and less opinionated regarding non-note related, less structured skills (e.g., band music, improvisation, other). Other than the improvisation skill, all other performance activities were negatively skewed, suggesting that the ratings were clustered at the higher end of the range. Collectively, the kurtosis and skewness analysis found that most performance activities were not normally distributed.

3. **Artistic Fundamental Skills.** When the MMs rated each of the 10 AFS, they perceived that tone (M=4.8), rhythm (M=4.7), technique (M=4.7), phrasing (M=4.7), and ensemble (M=4.7) were the most important AFS in developing musicianship. The MMs rated intonation (M=4.5) moderately important, and theory (M=3.8), form (M=3.7), music history (M=3.6), and dynamics (M=3.6) least important (Appendix E). The kurtosis analysis found that MMs had strong, definite opinions regarding the "instrumental" importance of tone (K=10), phrasing (K=7), technique (K=7), rhythm (K=7), and ensemble (K=6), but were less opinionated (≤.9) regarding non note-related, non instrument-related activities such as intonation, dynamics, music history, form, and theory. The AFS skewness analysis found that the MM's ratings were clustered at the lower portion of the rating spectrum, suggesting that MMs would not assign a high rating to an item without believing that it deserved the high rating. Collectively, the kurtosis and skewness analysis found that most AFS were not normally distributed.

D. Do the ICS-2's "perceptual" items *(i.e., College Course Work-10 items, Performance Acitivity =8 items, and Artistic Fundamental Skills=10 items)* relate to the student's MI?

1. Pearson Product Moment (univariate analysis).

a. Positive Relationships. As Table 3 illustrated (see Appendix E), there are 10 important ($p \leq .05$, $r \geq .13$) positive relationships among the study's independent variables and the instrumentalist's GT score. When the **CCW** associations were examined, the student's rating of ear training (r=.20), instrumental ensemble (r=.19), and theory (r=.14) received a positive association to the GT score, while the ratings of PL, keyboard/piano, music history, conducting, music education, voice/choir, and general academics (five skills) showed no important relationship. The **PAs** with a positive trend line with GT score included scales (r=.13) and etudes (r=.13), but no important relationship existed for thirds/arpeggios, band music, sight reading, solos, improvisation, and other. Of the three ICS-2 areas, the **AFT** ratings represented the best group of items for reflecting a positive association with musical outcome. There was a positive association for ensemble (r=.28), tone (r=.26), theory (r=.20), dynamics (r=.15), and music history (r=.15) with the MM's GT score (5 of 10 items), but not for intonation, phrasing, technique, rhythm, and form. Of these 10 positive associations, 3 (out of 10) were in the **CCW** area, 2 (out of 8) were in the **PA** area, and 5 (out of 10) were in the **AFS** area.

Table 3. Pearson Product Moment correlation used to examine the positively significant ($r \leq .13$, $p \leq .05$) relationships among postsecondary "perception" items and Music Majors GT, MAT3, and MAT4 scores.

	GT r	MAT3 r	MAT4 r	Item	Behavior	Skill Area
1.	.28	.26	.25	E4EN	Ensemble	Artistic Fund. Skills
2.	.26	.30	.19	E4TO	Tone	Artistic Fund. Skills
3.	.20	.21	.17	B4ET	Ear Training	College Course Work
4.	.20	.19	.17	E4TH	Theory	Artistic Fund. Skills
5.	.19	.20	.15	B4IE	Ensemble	College Course Work
6.	.15	—	.15	E4DY	Dynamics	Artistic Fund. Skills
7.	.15	—	.15	E4HI	History	Artistic Fund. Skills
8.	.14	.14	—	B4TH	Theory	College Course Work
9.	.13	—	—	D4ET	Etudes	Performance Activities
10.	.13	—	.16	D4SC	Scales	Performance Activities

b. Negative Relationships. As Table 4 illustrated (see Appendix E), there were 3 important ($p \leq .05$, $r \geq .13$) negative relationships among the study's perception items and the instrumentalist's GT score. In the **Performance Activities** area, the analysis found that the MM's rating of band music ($r = -.21$) and improvisation ($r = -.19$) reflected a negative association with the GT score, and in the **CCW** area, music education ($r = -.21$) reflected a negative relationship. These three items represent 1 of 8 possible **CCWs**, 2 of 10 possible **PAs**, and 0 out of 10 **AFS**.

Table 4. Pearson Product Moment correlation used to examine the positively significant ($r \leq .13$, $p \leq .05$) relationships among postsecondary "perception" items and Music Majors GT, MAT3, and MAT4 scores.

	GT r	MAT3 r	MAT4 r	Item	Behavior	Skill Area
1.	-.21	-.15	-.23	B4ME	Music Education	College Course Work
2.	-.21	-.19	-.18	D4BM	Band Music	Performance Activities
3.	-.19	-.19	-.16	D4IM	Improvisation	Performance Activities

2. Exploratory Multiple Regression (multivariate analysis). In the **CCW** area, the Exploratory Multiple Regression statistic found a positive trend line for ear training ($p \leq .02$), and a negative association for general academics ($p \leq .02$) and the MM's GT score. In the **PA** area, both band music ($p \leq .02$) and improvisation ($p \leq .02$) reflected a negative association with the instrumentalist's GT, and in the **AFS** area, music history ($p \leq .04$) and phrasing ($p \leq .04$) reflected a positive trend line with the student's GT score. The six perception items accounted for 16% of the variance, suggesting that the remaining 84% was not accounted for or identified.

3. **Behavior and Perception Items Examined Collectively** (Exploratory Multiple Regressions). Collectively, these six perception items accounted for less than half of the variance that was identified in the earlier exploratory multiple regression "behavior" analysis (15.6% vs. 32.4%). When the 66 "behavior" and 28 "perception" analysis items (66+28=94 total items) are examined collectively (Appendices D and G), 8 items reflected a positive association with the MM's GT score and 6 items reflected a negative relationship. When the percentage of variance for the "behavior" and "perception" analysis is summed, collectively, these 14 items accounted for about 48% of the variance, suggesting that 52% of the variance is not identified using the study's 94 college skills, activities, experiences, or musical philosophy items.

The items not identified in the analysis are as interesting (and educationally important) as the few items that were identified. In the **CCW** area, the analysis found that private lessons (i.e, +1= 1 positive relationship), ear training (+2), and general academics (-1) had significant relationships with the student's GT score while theory, keyboard/piano, music history, conducting, music education, voice/choir, and instrumental ensemble (7 of 10 items) did not have a significant association. In the **PA** area, the analysis found that band music (-1), solos (+1), and improvisation (-2) had an important association with the MM's GT score, but scales, etudes, thirds/arpeggios, sight reading, and other (5 of 8 items) did not have a relationship. In the **AFS** area, the analysis found that tone (-1), intonation (+1), phrasing (+2), ensemble (-1) and music history (+1) had an important association with the the MM's GT score (5 of 10 items), but technique, dynamics, rhythm, form, and theory did not.

E. What ICS-2 items group into factors?

The Pearson Product Moment correlation "r" analysis for both the "behavior" (66 items) and "perception" (28 items) analysis were grouped. The 13 items with the least important association ($r \leq \pm .033$) with the MM's GT score were excluded for further data analysis (see Table 5). The item B3 IE was also excluded because of the small variation in the MM's grades (M=3.95, SD=.14 [Appendix B]).

Table 5. Behavior (Appendix C) and Perception (Appendix F) items with the smallest relationship ($\leq \pm .033$) to the music major's GT score are identified.

	Item	MAT3 r	MAT4 r	GT r	Behavior/ Perception	Skill	Area	ICS-2 Section
1.	B3ET	0.096	-0.008	.037	Perception	Ear Training	CCW	B
2.	B4VC	.079	-.010	.033	Perception	Voice/Choir	CCW	B
3.	B3K/P	.109	-.038	.024	Behavior	Keyboard/Piano	CCW	B
4.	B4K/P	.059	-.015	.021	Perception	Keyboard/Piano	CCW	B
5.	B3TH	.007	.028	.021	Behavior	Theory	CCW	B
6.	B2ET	-.019	.043	.019	Behavior	Ear Training	CCW	B
7.	E1TH/T	.039	-.015	.008	Behavior	Theory	AFS	E
8.	D2ET/T	-.011	.010	.001	Behavior	Etudes	PA	D
9.	B3VC	-.119	.064	-.012	Perception	Voice/Choir	CCW	B
10.	D4OT	.002	-.027	-.015	Perception	Other	PA	D
11.	B2GA	-.054	.003	-.022	Behavior	Gen. Academics	CCW	B
12.	E1FO/T	-.044	-.007	-.024	Behavior	Form	AFS	E
13.	D2BM/T	.022	-.062	-.030	Behavior	Band Music	PA	D
14.	D2DY	.041	-.076	-.031	Behavior	Dynamics	PA	D
15	D3OT	0.198	-0.191	-.035	Behavior	Other	PA	D

The Principal Components (roots greater than one/Varimax) factor analysis (FA) statistic was applied to the study's remaining 78 items. The factors were grouped by the item's primary loadings, and the authors assigned a title to each factor.

1. **Tone (Factor 1).** The analysis found that when MMs emphasized tone during private lessons (E3TO= -.874), they also emphasized tone during individual practicing (E1TO= -.840) and during band rehearsals (E2TO= -.445), but de-emphasized rhythm during private lessons (E3RH=.509). The earlier exploratory multiple regression found that D3IM, E3TO, and D4IM had a significantly negative relationship with the student's GT score. The student's decision to emphasize tone (Factor 1) had a negative impact on their MI.

2. **Academics (Factor 2).** The MMs who emphasized history (E2HI=.901), theory (E2TH=.771) and form (E2FO=.637) during band rehearsals, also emphasized history (E3HI=.629) during private lessons and during individual practicing (E1HI/T=.488). The analysis found that MMs who rated music history (B3MH=.341) and music education (B3ME=.315) important in developing musicianship, rated ear training (B4ET= -.324) and scales (D4SC= -310) unimportant in developing musicianship. The study's regression found a significantly positive relationship between GT scores and the MMs who emphasized history (E3HI) during private lessons—no other items identified in the **Academics** factor had an important relationship with the student's GT score. Therefore, the items in the **Academics** factor have marginal importance in developing and promoting MI. There seems to be a great chasm among the skills taught by the faculty or learned by the MM in some musical academic courses (i.e., music history, theory, form, and music education) and the development and growth of the instrumentalist's MI.

3. **Artistic Conception (Factor 3).** In the **Artistic Conception** factor, the analysis found that when MM rated technique (E4TE=.918) important, they also rated rhythm (E4RH=.918), tone (E4TO=.734), phrasing (E4PH=.531), solos (D4SO=.513), ensemble (E4EN=.495) important in developing MI, but not technique (E2TE= -.418) in the development of musicianship, and not emphasize sight-reading (D3SR= -.510) during private lessons unimportant. Most of the items grouped in the **Artistic Conception** factor relate to the MM's perceptions and are not connected to the student's MI. The MM's musical philosophy could be a detracting element in their development of MI.

4. **Drilling Basic Skills (Factor 4).** The MM's rating of thirds/arpeggios (D2TA/T=.857), scales (D2SC/T=.834), and intonation (E1IN/T=.818) are the primary items grouped in the **Drilling Basic Skills** factor. Other primary loadings included the MM's rating of technique (E1TE/T=.456) and phrasing (E1PH/T=.422), and the percentage of time the MMs practiced scales (D2SC=.366). Secondary loadings included the MM's rating of tone (E1TO/T=.341) and history (E1HI/T=.369), along with the number of courses in instrumental ensemble (B2IE=.320). None of the items identified in the **Drilling Basic Skills factor** (primary or secondary loading) are related to the student's MI development. This analysis found that "time-on-task" is not the primary ingredient in MI development. Students need to identify the important skills related to MI development, and not waste their time practicing the wrong skills.

5. **Generic Classes (Factor 5).** The primary loadings in the **Generic Classes** factor included the number of college classes in music history (B2MH=.881), theory (B2TH=.718), conducting (B2CO=.683), private lessons (B2PL=.580), and instrumental ensemble (B2IE=.320). Other primary loadings include the MM's grade in conducting (B3CO=.251), music history (B3MH=.496), and music education (B3ME=.435). A very weak primary item grouped in the **Generic Classes** factor was the MM's emphasis on phrasing during band rehearsals (E2PH=.173). Of these nine items grouped in this factor, B2PL (number of semesters of private lessons) is the single item with a significantly positive association with the music major's MI. Although mastering an instrument requires a certain degree of academic knowledge related to theory, music history, and conducting; these secondary skills or related activities should never replace the emphasis and mastery of the essential related related to MI?

6. **Improvisation (Factor 6).** The primary items grouped in the **Improvisation** factor included the percentage of time MM's emphasized improvisation during individual practicing (D2IM/T=.889) and private lessons (D3IM=.726), the percentage of time they emphasized rhythm during practicing (E1RH/T=.643),

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and the students' rating of improvisation (D4IM= -.392) in developing musicianship. Dynamics (E1DY/T=.273) was the weakest primary loaded item in the **Improvisation** factor. The subloaded items suggested that scales should be de-emphasized (D2SC/T=.474) during private lessons, but rated importantly (D4SC= -.325) in MI development. *Are scales too remedial an activity for college students?*

The study's regression analysis suggested that emphasizing improvisation during private lessons (Appendix D) or rating improvisation important in the development of MI (Appendix G) had a significantly negative association with MI. The univariate correlation analysis found an important and positive relationship between scales and student's GT score (see Table 3). On a continuum basis, improvisation might represent the absence of structure and discipline, while practicing scales might imply the emphasis on musical discipline and structure. This analysis supports the notion that the development of MI, especially from the classical or traditional music perspective, requires both structure and discipline.

7. **Relevant Opinion (Factor 7).** The two primary items relating to the **Relevant Opinion** factor included the MM's rating of both theory (B4TH=.850) and ear training (B4ET=.603). A secondary loading included the item private lessons (B4PL=.444). The "perception" regression analysis found that both private lessons and ear training (Appendix G) had an important association with the student's GT score. The Pearson Product Moment (univariate) correlation analysis (Table 3) indicated a meaningful relationship between theory and the MM's musical outcome. These items grouped in the Relevant Opinion factor—theory, ear training, and private lessons—are related to the student's perceptions, and are essential in the development of the student's MI growth.

8. **Superficial (Factor 8).** The primary loadings grouped in the **Superficial** factor included the student's rating of music education (B4ME=.735), conducting (B4CO=.636), band music (D4BM=496); two items connected to the **CCW** area and one item in the **PAs** area. Two secondary loadings included the MM's grades in conducting (B3CO=.392) and music education (B3ME=.419). The items conducting, music education, and band music were not identified in the "behavior" regression analysis (Appendix D), while band music was identified as having a negative association on MI in the "perception" regression analysis (Appendix G). Some musical skills enhance the development of MI (e.g., Relevant Philosophy (Factor 7) items), but Superficial skills impede the student's MI development. The popularity of a particular skill (e.g., BM), or its inclusion into the curriculum (e.g., music education and conducting) does not automatically justify or validate its educational value in the development of the student's MI growth.

9. **Cursory (Factor 9).** The three items connected to the **Cursory** factor included the MM's de-emphasis of scales (D3SC= -.876) during private lessons, the absence of sight reading (D2SR/T= -.575) during individual practicing, and the MM's positive rating of intonation (E4IN=.367) in developing MI. Subloadings related to the **Cursory** factor included the degree MMs emphasized solos (D3SO=.384) during private lessons and de-emphasized form (E2FO= -.364) during band rehearsals. While the item intonation had a positive association with the student's MI growth (Appendix D), scales, sight reading, and form had negative associations to the **Cursory** factor.

10. **Predicament (Factor 10).** The items grouped in the Predicament factor included the percentage of time the MM emphasized form (E3FO=.857) and intonation (E3IN=.404), and the percentage of time they did not emphasize technique (E3TE= -.535) during private lessons. Secondary loadings included the percentage of time the MM's emphasized theory (E3TH=.736) and the student's rating of the importance of ensemble (E4EN=.345) in developing musicianship. The study's correlation or regression analysis both found that none of these skills grouped in the Predicament factor had an important association with the student MI growth. The MMs find themselves in a predicament for they have to make an important decision between two important school-sponsored activities: either they emphasize academic course work (form, theory, and intonation) or master the technical demands of their instrument.

11. **Poetry v. Compliance (Factor 11).** The items grouped in the **Poetry v. Compliance** factor included the percentage of time the student emphasized ear training (E3ET=.807) during private lessons and de-emphasized solos (E3SO= -.624) during private lessons. Other primary items included the students' grades in general academics (B3GA=.595), and MM's rating of ear training (D4ET=.482) in developing musicianship. An item with a secondary loading to Factor 11 included the MM's grades in music education (B3ME=.336). The analysis suggested that the MM's are confronted with a dilemma during private lessons; they have to make a choice between etudes or solos. The students who lean towards emphasizing ear training during private lessons are also inclined to make higher grades in general academics and in music education classes; instrumentalists who emphasize solos during private lessons generally make lower grades in general academics and music education. Music Majors must make a conscious choice between the poetry imbedded in musicianship, or complying with the school's curriculum constraints (i.e., general academics and music education).

12. **Antithetical (Factor 12).** The two items with a primary loading to the **Antithetical** factor included the percentage of time the MM emphasized other (D2OT/T=.791) during private lessons and their rating of general academics (B4GA=.422) in developing MI. Secondary loadings to the Antithetical factor included the percentage of time they emphasized ensemble (E3EN=.348) during band rehearsal and their rating of phrasing (E4PH=.305) in developing musicianship. The study's "perception" regression analysis found that the MMs rating of general academics in developing musicianship has a negative association with their GT score (Appendix G). Simply, these items identified in the **Antithetical** factor, especially other and general academics, had a neutral or negative association with the student's GT score.

13. **Spurious (Factor 13).** The items grouped in the **Spurious** factor included grades in music education (B2ME=.825), the percentage of time during private lessons practicing band music (D3BM=.691), the percentage of time spent practicing on ensemble (E1EN/T=.687), and the percentage of time spent on phrasing during private lessons (E3PH=.349). The regression analysis suggested a negative association between ensemble and the MM's GT score. The univariate analysis indicated that there was a negative relationship between the student's rating of music education (B4ME) and the student's rating of band music (D4BM) in developing musicianship and the GT score (Table 4).

14. **Opinion of Sight Reading** (Factor 14) The **Opinion of Sight Reading** factor contained one single factor—the MM's rating of sight-reading (D4SR=.840) in developing musicianship. Other items with a quasi-subloading to factor 14 included the percentage of time the MM emphasized sight-reading during practicing (D2SR/T=.254), and the percentage of time they emphasized band music during private lessons (D3BM=.257). Opinions regarding sight-reading do not relate to either important or unimportant items relating to MI.

15. **Other Performance Skills (Factor 15).** The items with a primary loading to the **Other Performance Skills** factor included the number of classes in voice choir (B2VC=.820) and keyboard/piano (B2K/P=.648) , and MM's lower grades in private lessons (B3PL= -.437). Other items that are subloaded to factor 15 include the MM's negative ratings of conducting (B4CO= -.318) in developing musicianship, the student's negative rating of private lessons (B4PL= -.330) in developing musicianship, and the instrumentalist's positive rating of history (E1HI=.346) in developing musicianship. Although the study's "behavior" univariate analysis (Table 1) found a positive association between the student's grades, the number of courses in conducting, and the student's MI level, the "perception" univariate analysis found no important association.

The music major is confronted with yet another potentially frustrating situation (similar to Factor 10 (Predicament) and Factor 11 (Poetry v. Compliance)). They must choose between two conflicting music education activities. The **Other Performance Skills** factor suggested that MMs must make a choice between practicing their instrument (and rating it important in developing MI), or practicing secondary music-making activities such as voice choir or keyboard/piano at the expense of their primary instrument. The MMs who elect to emphasize the secondary music-making activities are inclined to rate

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conducting (a valueless or worthless opinion in regards to MI growth) important in developing musicianship.

16. **Ensemble Sonority (Factor 16).** The three items grouped in the **Ensemble Sonority** factor included the percentage of time the MMs emphasized ensemble (E2EN=.844) and intonation (E2IN=.420) but de-emphasized rhythm during band rehearsals (E2RH= -.606) and private lessons (E3RH= -.461). The MM is confronted with yet another dilemma; they must choose among skills related to ensemble and tone (ensemble and intonation), or the structure and mechanics related to the tone (rhythm).

17. **"Artsy" Opinions (Factor 17).** The five items grouped in the **"Artsy" Opinions** factor included the student's high rating of dynamics (E4DY=.921), history (E4HI=.921), theory (E4TH=.654) , form (E4FO=..643) and music history (B4MH=.476) in developing musicianship. Items subloaded to Factor 17 included the student's high rating of general academics (E4GA=.422), band music (E4BM=.352), and scales (D4SC=.370) in developing musicianship. Both E4GA and E4BM items had a significantly negative association with the instrumentalist's GT score. This analysis found that MM's opinions do not match reality and that these opinions can be harmful or destructive to their MI growth.

18. **Ensemble Opinion (Factor 18).** The single item grouped in the **Ensemble Opinion** factor was the student's high rating of instrumental ensemble (B4IE=.805) in developing musicianship. Items that were subloaded to Factor 18 included the MM's high rating of solos (D4SO=.487) and intonation (E4IN=.305) in developing musicianship, and the percentage of time the MM's de-emphasized theory (E2TH= -.316) during band rehearsals. Since none of them have an important association to the MM's musical outcome, the items grouped in the Ensemble Opinion factor are insignificant to the MM's MI development.

19. **Questionable Fundamentals (Factor 19).** The primary item identified in the **Questionable Fundamentals** factor was the percentage of time the MM's de-emphasized thirds/arpeggios (D3TA= -.534) during private lessons. Other subloaded items grouped in factor 19 included the MM's negative rating of thirds/arpeggios (D4TA= -.482) in developing musicianship and the degree they de-emphasized tone (E2TO= -.419) during band rehearsals. Other subloaded items included the number of semesters the MM's took private lessons (B2PL=.388) and instrumental ensemble (B2IE=.413), and the student's positive rating of improvisation (D4IM= .377) to develop musicianship. This analysis is difficult to interpret because B2PL had a significantly positive association (Appendix D) with the student's MI score, but D4IM had a significantly negative association (Appendix G). The analysis found that when thirds/arpeggios (primary and secondary loadings) is de-emphasized, the number of semesters of private lessons increased—the relationship between the improvisation and private lessons items needs further examination.

20. **Ear Training Grades (Factor 20).** The primary item found in the **Ear Training Grades** factor is the MM's grades ear training (B3ET=.881). The single subloaded item in this factor was the MM's low grades in history (B3HI= .371). The univariate analysis found a significantly positive and important (F=6.73) relationship between ear training and the student's MI score (Appendix D) and a significant association between the percentage of time students emphasized history during private lessons and their musical outcome (Appendix D). The analysis suggested that the MM's grade in an auditory academic area (ET) might have a higher priority or urgency than a grade in a music academic, non-auditory (music history) area. Further, when MMs have to decide between the aesthetic/auditory course work or academic course work, the MM's often elect to emphasize the activity dealing with auditory discrimination.

21. **Practicing Solos (Factor 21).** The single item identified in the Practicing Solo factor is the percentage of time a solo (D2SO= -.274) is emphasized during individual practicing. Interestingly, no other items are subloaded to Factor 21. The study's multivariate analysis suggested that emphasizing

solos during practicing had a significantly positive association with the MM's GT score (Appendix D). The study's univariate analysis suggested that emphasizing solos during individual practicing had a marginally positive (r=.104) association, while emphasizing solos during private lessons had a significantly positive (r=.270) relationship (Appendix C). Practicing solos and emphasizing solos during the MM's private lesson has a important relationship to the MM's MI development.

22. **Fortuitous Artistry (Factor 22)**. The three primary items grouped in the **Fortuitous Artistry** factor included the MM's rating of thirds/arpeggios (D4TA=.852) in developing musicianship, the percentage of time students emphasized theory (E3TH=.739) during private lessons, and the MM's rating of private lessons (B4PL=.538) in developing MI. The **Fortuitous Artistry** factor's subloaded items included the percentage of time the MM's emphasized rhythm (E1RH/T=.576) and technique (E1TE/T=.434) during individual practicing, and MM's negative rating of theory (E4TH= -.463) in developing musicianship, and the rate students de-emphasized form (E3FO= -.403) during private lessons. None of the **Fortuitous Artistry** factor items had an important association with the student's level of MI.

VII. CONCLUSIONS

A. The mastery of MI requires a blend of skills, activities, and experiences.

The study's univariate and multivariate analysis found many of the behavior and perception (musical philosophy) items are associated with the student's MI. Although behavior items accounted for 32% of the variance, the analysis observed no clear pattern of skills, activities, or experiences associated with the MM's musical outcome. In the **College Course Work** area, private lessons (number of courses) and ear training (grades) had a significant impact on the MI development, while the other 18 items relating to theory, keyboard/piano, music history, conducting, music education, voice/choir, instrumental ensemble and general academics did not. In the **Performance Activities** area, emphasizing solos during individual practicing had a positive association with MI, while emphasizing improvisation during private lessons had a negative association. Of these 18 performance activities items, 16 appeared to have an impact on MI. In the **Artistic Fundamental Skill** area, the analysis found that emphasizing intonation and phrasing during band rehearsals had a positive association with MI, but emphasizing ensemble during individual practicing and tone during practicing had negative associations. Of these 30 AFS items, there was no consistent association among 26 items and MI.

The analysis suggested that many activities, skills, and experiences do not promote MI growth; thus, separating the important and unimportant activities becomes a difficult process. The factor analysis (Appendix H) found that many clusters of skills, activities, and experiences relate to other hotly emphasized music education items, but collectively, they do not have a meaningful association with musical outcome. Understanding these relationships becomes very complex. Why are so many activities and experiences not associated with MI included in the music education curriculum? Why are these skills constantly emphasized throughout the student's music education course work? Do accreditation guidelines or customs have a strangle-hold on music education such that instrumental students are barraged with dis-information?

B. Relationships among college music skills, experiences, and activities are difficult to understand.

The FA convincingly found that many seemingly logical associations among different skills, activities, experiences, and perceptions do not exist, while other seemingly non-related relationships do exist. In the Artistic Conception factor (Factor 3, Appendix H), the analysis found that MM's positive ratings of technique, rhythm, tone, phrasing, and intonation in developing MI are inter-related, but negatively related to emphasizing technique during band rehearsal and emphasizing sight-reading during private lessons. Since there is an important association between students' ratings of phrasing and their level of MI, does this further suggest that tone, rhythm, and technique also have a special, positive association to MI? This analysis further suggested that solos and sight-reading are at opposite ends of the **Artistic Conception** spectrum. The **Spurious** factor (Factor 13) contained the following CCW, PA, and AFS items—students' positive rating of music education in developing musicianship and students

emphasizing band music, ensemble and phrasing during private lessons.

The univariate analysis (Appendix C and F) illustrated another interesting generalization. Items grouped in one cluster (e.g., performance activities-private lessons) are often related to other items in the same cluster, but generally do not relate with items in the other clusters. When a specific skill is examined in three different settings, the emphasis on that skill takes on different levels of importance. When students emphasize dynamics during individual practicing, it is strongly emphasized during band rehearsals and private lessons (r=.17, .37, respectively). When students emphasize ensemble during individual practicing, it is ignored during band rehearsal (r=.04) but strongly emphasized during private lessons (r=.56).

These inconsistent relationships might point to a broader issue—should specific skills become equally important in all musical settings? The multivariate analysis found the answer to be "NO". A second question might be: "If two items are closely connected (FA analysis) and one of the items has a positive association with MI, does this further suggest that other items similarly (either positive or negative) grouped also have the same association to MI?" Of the 22 factors (FA, Appendix H) and 78 items, 7 factors (32% of the factors representing 28 primary items) contained items with a positive association with MI, 5 factors (23% of the factors representing 20 primary items) contained factors with a negative relationship with MI, and the remaining 10 factors (44% of the factors representing 30 items) did not contain items with either a positive or negative association with MI. Do the study's univariate, multivariate, and factor analyses suggest that a large percentage of the college skills, activities, experiences, and perceptions (94 items) do not have an important association with MI?

C. <u>Behavior</u> items are better indicators of MI than the student's <u>perceptions</u> (opinions) (32% vs 15%).

Eight of the 66 behavior items and 6 of the 28 perception items had an important association with MI (32% and 15% of the variance, respectively). Although there are about twice as many behavior items as there are perception items (66 vs 28), the analysis found that the behavior items were better indicators of MI than perception items.

In music education, students are often asked to rate (perceptions) the effectiveness of an instructor or a specific course. A large percentage of opinion-related research is used in educational journals, research papers, and presentations at major educational conferences. Who is fooling whom? Although this type of information is easy to obtain (a simple questionnaire distributed in class), and might communicate to the participants that their opinions are important and valid (good public relations ploy), does this procedure have questionable educational value? When the music majors relied on their music philosophy to identify important and unimportant skills, activities, and experiences associated with MI, why did they miss 85% of the things that are associated with the development of MI?

Behavior activities/skills and perceptions related to these same skills are not always congruent. When the multivariate positive associations for behavior are examined, the analysis found that private lessons, etudes, solos, intonation, and phrasing had a positive association with MI (Appendix D). The perceptual analysis found that etudes, history, and phrasing had a positive association (Appendix G) with MI. Note that the phrasing and etude items are identified in both analyses, while private lessons, intonation, and history are not.

D. Some college "behavior" experiences, activities, and skills have a <u>NEGATIVE</u> impact on MI development.

At the beginning of this study, the authors assumed that most or all of the items included in the ICS-2 would have a positive association with MI. These items are the basics or fundamentals used in music education. The univariate analysis suggested that 9 of the 66 behavior items had a significantly negative association with MI and 3 of the 26 perception items also had a negative relationship with MI. The multivariate analysis found three behavior items and three perception items that were negatively related to the GT score. Collectively, <u>improvisation, band music, music education courses, tone, and music history were the items consistently identified as having a negative association with MI</u>.

The factor analysis suggested that other items might have a negative association with MI,

including rhythm and tone (Factor 1), dynamics (Factor 6), other and general academics (Factor 12), and music education (Factor 13). The FA analysis is similar to the univariate analysis, for the items rhythm and tone reflected a negative association with MI.

Because of the influence of jazz, improvisation has recently been introduced into the music education curriculum as a positive activity. The analysis shows that improvisation along with other music education courses has a negative impact on MI. Music education faculty members might defend the inclusion of general music education courses on the basis of custom and tradition, but could they make a valid argument justifying these programs on the basis of MI development? Could these courses be modified to complement the development of MI? The authors suggest that if these courses are not modified, their inclusion into the curriculum hurts rather than helps the student's MI growth. If these courses were restructured, the student's MI development would be enhanced (see Discussion section, #C).

E. Most of the important skills, activities, experiences, or perceptions (music philosophy) associated with MI are difficult to identify and examine.

In developing the ICS-2, the authors tried to identify the primary activities and experiences that postsecondary instrumentalists would be exposed to during their college training. The authors also tried to identify and examine the primary musicianship skills that would be taught to music majors in their music education training. Collectively, the behavior multivariate analysis found 32% of the activities that relate to MI, while the perception analysis observed another 16%. If 48% of the things that impact musical outcome have been identified, what are the remaining skills, activities, and experiences that make up the missing 52%?

Would a longitudinal study help identify other important skills and activities not identified in this study? Because of the multicollinearity issue, some of the other important skills and activities might be overshadowed by the primary items identified in the multivariate analysis (i.e., the univariate analysis found many more important relationships with MI than the multivariate analysis). These and other related issues need to be fully examined before policy decisions are made by the college's accrediting agencies, music administrators, or faculty members.

F. Instrumental teachers have neither developed nor promoted an effective method of teaching MI.

Course grades should reflect growth and mastery of course content. Yet, the study's participants are either great scholars or their grades are highly inflated and therefore a worthless indicator of academic success. The typical music major makes an "A+" in instrumental ensemble, and an "A" in private lessons. Would these institutions enthusiastically allow their instrumental students to be tested by an external adjudicator on all their major and minor scales, thirds, chords, and maybe a dozen etudes and solos for their respective instruments?

The literature review supports the idea that performance activities are essential in MI development. Generally, students listen to their private teachers. The analysis found that performance skills are being taught to music majors during private lessons and are reinforced during individual practicing (Appendix B). Private teachers emphasize and students practice improvisation the least (Rank=1) (Appendix B). However, private teachers spend the largest percentage of time teaching and music majors spend the largest percentage of time practicing solos and etudes(Rk=8 and 7, respectively).

While some student(s) emphasized the performance activities 50-85 percent of the time, other student(s) never emphasized these skills (0%). If performance activities are important in MI development, how can these activities be ignored or de-emphasized? The univariate analysis suggested that music majors generally practice what they are taught in private lessons (Appendix C). If instrumental instructors do not allocate a certain percentage of time each week teaching, discussing, or emphasizing the importance of each performance activity, why should music majors emphasize these performance activities? The multivariate analysis found that the number of semesters students took private lessons is one of the strongest, positive items associated with the music major's level of MI (Appendix D). Are these

music majors developing MI skills in spite of and not because of the quality of their private instrumental instructors?

The amount of time practicing is just part of the total equation of musical excellence. Knowing the right things to practice (a reflection of the MM's musical philosophy) is essential for rapid, mature MI growth. The **univariate** analysis found positive MI associations with the music major's rating of ensemble, tone, ear training, and theory, while the ratings of music education, band music, and improvisation reflected negative MI relationships. Using **multivariate** analysis, the music majors' rating of ear-training, history, and phrasing had positive associations with MI, while their positive rating of general academics, band music, and improvisation reflected negative associations with MI (3 positive and 3 negative: Appendix G). Although music majors have a good insight in recognizing the important skills related to MI (Perception: 10 positive vs 3 negative, Tables 3 and 4), they did not have a clear and concise understanding of all the essential skills, activities, or experiences related to MI growth. From the student's perspective, do the academic rigors of music education (grades, classes, and faculty dis-information) distort the music major's musical philosophy?

G. **Music education departments and their respective faculty members do not know how to design courses and instruct students on the primary mission of developing and enhancing the music major's MI growth.**

When examining the number of semesters in a variety of music activities and their corresponding grades, few activities, experiences, or skills have an important association with MI. The univariate analysis found that the number of courses in private lessons, music history, instrumental ensemble, theory, conducting, and keyboard/piano (6 of 10 items) had a positive association with MI (Table 1). The multivariate analysis found the number of semesters of private lessons was the only course associated with MI development (Appendix D).

The univariate analysis found that grades in music history, conducting, and private lessons relate to MI. The multivariate analysis found that only grades in ear training had a positive association, while the grades in nine other course areas did not have a positive effect on MI. How many music education departments would openly advertise that the number of courses in a music course or the course grades have little to do with the instrumentalist's MI development?

H. **Music educators need to be aware of activities (tone, band music, improvisation, general music education courses, and sight-reading) that have negative associations with MI development.**

As mentioned earlier, students learn what they are taught—their philosophy often parallels their instructors' philosophy. Music educators can be susceptible to novel, trendy gimmicks (short-cuts) in music instruction which have little impact on MI.

1. **Tone.** An instrumentalist's tone is comparable to an artist's colors on a palate. Along with the pseudo-musical statement "play it with feeling", the importance of tone is overemphasized. During practicing, band rehearsals, or private lessons, tone is one of the most emphasized AFS (Rk=10, 8, 10, respectively, see Appendix B). Music majors rated tone as the most important of the 10 AFS (Appendix E) in developing musicianship.

The analysis found a negative association between emphasizing tone during individual practicing (Table 2) or private lessons (Appendix D), and the music major's MI. The factor analysis showed that tone is closely aligned with the students' use of improvisation during private lessons and their rating of improvisation (both items having a negative association with MI) in developing musicianship (Appendix H, Factor 1).

Although tone is a valid performance issue, music majors need to de-emphasize the importance of tone, and the music faculty/music administrators need to put tone in its proper educational perspective.

2. **Band Music.** Many college band directors urge their students to practice their band music. Although their intentions may be good, this directive is generally ineffective in improving student

performance. This study showed that music majors moderately emphasize band music during their individual practicing (Rk=5, Appendix B). The Kurtosis and skewness analysis suggested that a moderate number of music majors emphasized band music during practicing and during their private lessons. Fortunately, music majors de-emphasized band music (2%) during private lessons, and rated it unimportant in developing musicianship (Appendix E). The univariate analysis found that when music majors emphasized band music during private lessons, they scored significantly lower on their GT score (Table 2). Likewise, the music majors who rated band music as important in developing musicianship scored significantly lower on their GT score.

If music majors cannot play a band arrangement, the director should examine the key signature, dynamics, technical demands, etc. of the respective composition, then suggest appropriate solos or etudes (along with scales, thirds/arpeggios) for the music majors to practice (solos: Table 1, Appendix D, and Appendix H; Factors 8 and 11).

3. **Improvisation.** Of the 10 performance activities, music majors de-emphasized improvisation (Rk=1, Appendix B) during practicing or private lessons, and rated it least important in developing musicianship (Appendix E). The univariate analysis found that the music majors who emphasized improvisation during private lessons scored significantly lower on their GT score (Table 2)—the item with the largest negative relationship to MI. The multivariate analysis paralleled the univariate analysis and again showed that improvisation should be de-emphasized during private lessons. The music majors who rated improvisation important scored significantly lower on their GT score (Table 4). The FA suggested that when students emphasized improvisation, they also emphasized tone during their lessons (Appendix H, Factor 1), which the multivariate analysis found has a strongly negative impact on MI (see Item 1 above). Improvisation might be an important activity in the development of jazz skills (which is beyond the scope of this study), but should never be emphasized in MI-related activities, for it has a significantly negative impact on the student's MI development.

4. **Music Education**. Music majors earn very good grades in general music education classes (GPA=3.3, Appendix B), but they believe that these classes have a marginal association with musicianship (Rk=4, Appendix E). The univariate analysis suggested that music majors who consider music education classes important in MI development scored significantly lower on their GT score (Table 4). The FA found that the music majors with good grades in music education also considered music education and conducting courses important in developing musicianship, and emphasized band music in developing musicianship (Appendix H, Factor 8). Remember, the multivariate analysis found that the students who rated band music important in developing musicianship earned significantly lower GT scores. How difficult would it be to promote/emphasize the important MI skills in each of the different music education classes?

5. **Sight-reading.** Sight-reading is another fashionable evaluation and performance tool in many music education programs. From the local or state level to the college level, scholarships and chair placements are often determined by the student's mastery of sight-reading. Even the rating at high school concert band festivals are partially awarded on the basis of sight-reading. Although the univariate analysis did not show that sight-reading had a significantly negative association with GT score, sight-reading reflected a negative relationship with the music major's GT, MAT3, and MAT4 scores when it was emphasized during either individual practicing or private lessons (Appendix C). The FA suggested that when music majors de-emphasized sight-reading during private lessons, they emphasized the importance of phrasing in developing musicianship (Appendix H, Factor 3). Phrasing and the music major's GT score are significantly associated. Should **Sight-reading** be included into the curriculum just because it is fashionable or a trendy activity? Even if sight-reading does not always hurt MI development, since there is no persuasive or convincing evidence where there is a positive association with MI, why is it constantly emphasized in secondary or postsecondary music education? Musicianship is more than counting the number of right or wrong notes an instrumentalist plays at a first reading.

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VIII. DISCUSSION

A. Performance activities and artistic skills can be prioritized. Lower-level MI skills (fundamentals) should be developed before higher-order skills are learned (see theoretical diagram).

A good musician can differentiate between amateur and professional instrumentalists when both perform the same musical passage. The amateur and the professional might play the same notes, rhythms, tempo, and dynamics, but a vast difference remains between their performances. Although amateurs might say the professionals have more talent and/or advanced artistry, amateurs have difficulty isolating and identifying the particular skills related to the professional's musicianship.

Earlier, the have authors developed a simplified, 2-dimensional theoretical representation of MI (see Figure 1). The vertical dimension represents different levels of MI (know, sense, make, direct, and originate), while the horizontal dimension represents the different mastery levels (elementary, intermediate, advanced). In Figure 3, the 3rd-dimension (depth) is added to the earlier diagram, illustrating the performer's level of "musicianship" (artistry). Note that instrumental beginners (bottom left portion of the pyramid) start their instrumental studies with no artistry; as they progress to more advanced levels (intermediate and advanced) their artistry is also increased. In addition, the model implies that lower-level artistry has been mastered before advanced (artistry) musicianship is mastered.

For example, the amateur has the intellectual skills to know the correct notes in the manuscript (Knowledge: Level 1), hears whether the correct notes are being played (Listens: Level 2), and has the instrumental skills to actually play the piece (Performance: Level 3). The difference between the amateur's and professional's performance is pronounced. Musicianship (artistry) is the third variable that separates the amateur from the professional.

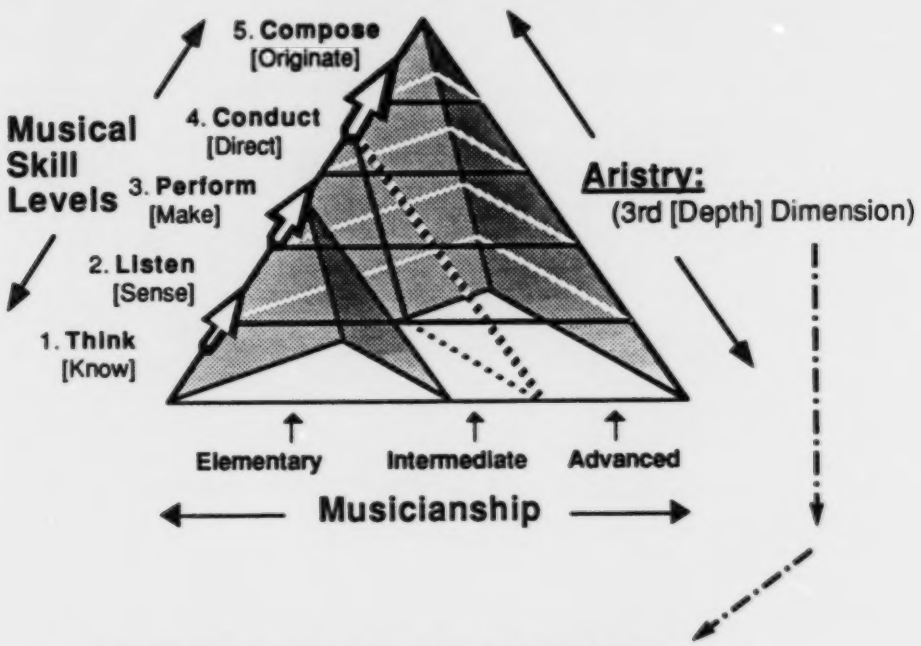
Musicianship (artistry) implies the mastery of specific, identifiable musical skills. Would a musical neophyte understand the professional instrumentalist's explanation of artistry? The professional, when explaining the differences between the two performances, might explain:

- I played with musical direction (phrasing: the musical line moved towards the cadence),
- I played in tune (intonation),
- I listened to my accompanist (ensemble),
- Since I knew the simple piece was written by Mozart, I started the trill from the top note (relevant artistic knowledge: Form and Theory),
- I had better technical control during the technical passages (evenness, clarity, and detail),
- I had more control during my articulation (evenness, clarity, and detail),
- I had superior breath support that allowed me to sustain the musical line, and
- I did not "cut off" the last note at the end of each phrase (A PASSION FOR BEAUTY).

The univariate analysis found that during the music major's: (1) individual practicing—intonation had a significantly positive association with the GT score, (2) band rehearsals—intonation, ensemble, and phrasing had a positive association with MI, and (3) private lessons—intonation, phrasing, theory, and form had a significantly positive association with MI (Table 1). Although different artistic skills are identified as being important during the different musical activities, it is important to recognize that many "artistic" skills were similar, regardless of the activity such as phrasing and intonation. The multivariate analysis found an important relationship between phrasing and intonation and the music major's level of MI (Appendix D).

The factor analysis (FA) found some interesting relationships that clarify the earlier univariate and multivariate analysis (Appendix H). The earlier analysis found that participating in sight-reading, improvisation, or band music detracted from the MM's musical growth. The FA found that although improvisation, sight-reading, and tone are grouped in the Tone factor (Factor 1), tone and improvisation/sight-reading are at opposite ends of the spectrum. In Factor 5, the number of semesters of private lessons (Appendix D) is grouped with emphasis on phrasing during band, reinforcing the importance of phrasing as an essential artistic skill. Since Factor 16 illustrated the relationship between intonation (positive association with GT score, Appendix D) and ensemble, logically, ensemble skills might also have an important association with artistic skills.

The study's analysis suggested that artistic skills can be identified and measured. With the depth



Artistic Fundamental Skills[1]

	Excellent	Secondary	Questionable	Poor/Harmful
1.	Intonation: ▲ PL, ▲ BR, ▲ IP, ■			
2.	Phrasing: ▲ PL, ▲ BR, ■			
3.		Form: ▲ PL, ○ BR →		
4.		Theory: ▲ PL, ○ BR →		
5		Ensemble: ▲ BR, ❑ →		
6.			Dynamics (?)	
7.				Rhythm: ○ PL
8.				Technique: ○ BR
9.				Music History: ○ BR, ○ PL
10.				Tone: ○ IP, ○ PL, ❑

1. Artistic Fundamental Skills (AFS) with significant relationships (p≤.05) to the student's MI are excerpted from Tables 1 and 2, and Appendix D.

Statistical Analysis

Univariate: **Positive** = ▲, Negative = ○;

Multivariate: **Positive** = ■, Negative = ❑.

Acitivty Codes

PL=Private Lessons, BR=Band Rehearsal, and IP=Individual Practicing.

Figure 3. A theoretical visualization of how artistic skills are connected to the five levels of Musical Independence, and each of the skills importance (above) in developing Music

dimension, Figure 3 is a generalized depiction of some of the skills associated with musical artistry. Although Colwell's MAT3 and MAT4 were designed primarily to examine middle school and high school students' musical achievement (tonal memory, melody recognition, pitch recognition, composer, texture, chord recognition, etc.) and not intended for postsecondary use, many important associations can be gleaned from the data analysis using Colwell's tests. Earlier studies have found that these musical achievement tests, and the specific skills examined, are valid when used to examine secondary and postsecondary musical achievement.

B. Music educators should be anxiously and eagerly willing to leave the "dark age" of myth and tradition and move into the 21st century of critical (a posteriori) data analysis.

Music educators should realize that music skills can be identified and measured in an academic manner (paper and pencil test). Some music educators have resisted the idea of accountability. Without extensive data analysis, would medicine or engineering have any credibility? Would people buy a medicine without prior, extensive data analysis? How confident would people be traveling over a large bridge or flying in an airplane without extensive data analysis? Music educators have been duped into believing fashionable, trendy instructional concepts, later realizing the concepts' imperfections. Instead, music education needs to be driven by accurate and insightful data analysis, not by trendy opinions.

C. Music performance should be incorporated into all aspects of music education.

Playing an instrument is an essential component in the development of MI and should be incorporated, to some extent, into <u>all</u> music courses. For example, theory, one essential musicianship skill, is the discipline of understanding and writing music. In theory, students learn many fundamental notational skills including chord progressions (I-VI-IV-II-V-V7-I), modulating from one key to another, writing passing tones, avoiding parallel fifths or octaves, etc. Even if the student masters academic theory, there is a great chasm between knowing theory skills and demonstrating theory skills. Instead of teaching and evaluating the MM's theory skills in a purely academic manner, students could be required to demonstrate these skills on their primary instrument (clarinet, saxophone, trumpet, french horn, etc.). Today, is the primary mission of music education for students to make good grades and pass a course? Since music majors are excellent students (GPA=3.3 [Appendix B]), and even top instrumentalists (private lessons M=3.8, and instrumental ensemble M=4.0), how many, after given a simple musical theme, can write a composition for their instrument? If music majors cannot demonstrate these higher-level skills, what does this say about their musical training, the school's music department, or the school's music faculty?

<u>Music history, ear training, and many other general music education classes can be taught by examining and grading students on skills relating to the actual production of music, instead of on an abstract, academic basis</u>. Collectively, many recognized music educators (e.g., Garofalo, Middleton, Haines, and Garner) tacitly recognized the importance of developing of instrumental musicianship as a "hand-on" process. Music is a "blue-collar" activity that is learned only through grueling hours of practice and proper instruction, not through acquiring academic knowledge alone. Rubinstein (piano), Horowitz (piano), Pearlman (violin), Heifetz (violin), and DuPre' (cello) achieved greatness only after practicing and performing their instrument 6 to 10 hours a day, 7 days a week. Were Rembrandt, Rubins, or Renoir covered from head to foot with paint all day? Were Michelangelo, Bernini, or Rodin (sculptors) covered with marble chips and dust all day? How many buckets of tears did these masters shed in the pursuit of artistic excellence? Do today's music majors understand the pain, personal sacrifice, and/or frustration associated with musical excellence? Do they have the essential MI skills to be effective music educators? Musicianship not only implies the necessity of personal dedication and unwavering hard work, but also strongly promotes the importance of participating in essential (and opposed superficial, gimmick, or trendy activities) music activities and developing a mastery of essential artistic skills. Now, instead of the college student identifying the second movement of Beethoven's Sixth Symphony during a music history class, have the clarinetists perform their part; or instead of writing a modulation from D-major to B-minor in the music major's theory class, have them demonstrate the modulation on their instrument.

Incompetent instrumental instructors often turn the teaching (mentoring) process into an excruciatingly convoluted and artistically perverted activity. Such teachers use vague and ambiguous comments, such as, "make this note louder, take a breath here, crescendo here, play with feeling, etc." After one piece of music is taught, the "spoon-feeding" process begins again when the next piece of music is assigned. Many feel that it is not essential to possess excellent instrumental MI skills to teach instrumental music. To these music educators, the authors might ask: "would you buy a medicine without extensive data analysis? Would you let a doctor perform an operation on you if he/she had only read or studied, but never actually performed, the surgical procedure"? If common sense suggests the answer to these or similar questions are "no", why does music education persist on promoting "business as usual"?

Most aspects of musicianship (artistry) can be easily taught. Without a strong mastery of fundamental performing skills associated with musicianship, music majors might graduate from college and become a band director, but at what expense? How much havoc will these music educators perpetrate on their students throughout their music education career? After these impotent music educators sow the seeds of dis-information, how many generations will it take to undue their negative impact on music education?

"Responsibility", in the pursuit of musical excellence, is not a dirty or perverted educational concept. Who should take responsibility for today's music education: the private instrumental teacher, music administrators, general music education faculty, music education researchers, editors of music education publications, the accrediting agencies, the students' parents, or the students? The list is endless. With power comes responsibility. Today, band directors are expected to be an expert in a variety of music related disciplines such as fund raising and budgeting, instrument/uniform/equipment purchasing and maintenance, student supervision/discipline, student/class scheduling, and the instruction of music. What is the primary responsibility of the band director: music related issues or non-music related issues? If music related issues are the primary responsibility of the band director, who should be responsible for the mastery level of band director's MI skills: school administrators, the music supervisors, parents, music publishers, or their college instrumental private teacher? Pointing the finger and blaming someone else is not the answer. The "buck" stops with every person with any influence on the promotion and development of MI. Therefore, if the theory faculty, ear-training faculty, music history faculty, general music education faculty, administrators, etc. invested in an alternative approach, where each educator accepted responsibility for the student's ultimate MI development, many of music education's problems could be totally eliminated.

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